

# FLAT

## FLAT fan coil units TECHNICAL MANUAL GB



CE

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## 1 MAIN FEATURES

**FLAT** by Galletti represents a new generation of fan coil units and has been engineered to offer performance and design features placing it at the top of its category.

**FLAT** means innovation also in terms of engineering: it combines a guarantee of excellent low-noise performance with the advantage of an exclusive design that fits well with both residential and commercial settings.

The construction concept allows to standardize the models for vertical mounting and those for horizontal mounting: 2 versions for floor, wall or ceiling installation:

**FLAT L** Wall mounted installation with decorative cabinet with vertical air outlet.

**FLAT U** Floor / ceiling installation with decorative cabinet, vertical air outlet and suction grille complete with filters.

The uniqueness of **FLAT** lies both in the use of extremely high quality materials - which contribute to making this product exceptionally robust - and the assurance of constant performance over time.

### OPERATING LIMITS

- > thermal fluid: water
- > water temperature: from 5°C to 85°C
- > maximum operating temperature: 10 bar
- > air temperature: from 5°C to 43 °C
- > power supply: 230V +/- 10%

## 2 VERSIONS AND MAIN COMPONENTS

### > DESIGN CASING

Colour RAL9010

Front panel made of sheet steel

Side panels, upper grill and side doors manufactured from UV-stabilised ABS to maintain the colour intact over time.

The upper grille is made of a FLAP and by swinging fins to address the flow to the outdoor ambient, on the right and on the left.

The flap features a microswitch that automatically shuts down the unit (fan motor and valves) when the flap itself is closed.

The closing of the FLAP avoids the risk of dust inside the machine when the unit is not used.

The side doors provide access to the control panel and compartment housing the plumbing connections.

The doors may be secured by screws to prevent opening.

### > BEARING STRUCTURE

Made of thick galvanized steel sheet, insulated with self-extinguishing Class 1 heat-insulating panels.

FLAT U can be used both for vertical installation (on the floor) and for horizontal installation by means of two different trays for collecting and discharging the condensate of the heat exchanger.

The basic unit is preset for assembling all the available accessories on "FLAT" product line.

### > FAN MOTOR ASSEMBLY

Thanks to the new fan-drive assembly, FLAT ranks at the top of the category of indoor air-conditioning units in terms of low-noise operation.

The fan motor assembly includes 1 or 2 centrifugal fans with staggered airfoil-shaped blades, manufactured from anti-static ABS (to avoid the dust and the consequent unbalance).

The fans are housed in a low-noise ABS volute distinguished by a compact, high-efficiency profile.

The 3-speed electric motor is directly coupled to the centrifugal and installed on vibration-damping supports; it comes complete with built-in capacitor and thermal protection for the windings.

Six speed motor available on request.

### > HEAT EXCHANGER

High-efficiency heat exchanger, made of copper pipe and aluminium fins fixed to the pipes by means of mechanical expansion, equipped with brass manifolds and air purge valve.

The units normally come with water connection on left side, but the heat exchanger, and can be turned, on the field, by 180°.

On request it is possible to install an additional 1 row heat exchanger, for the connections to the hot water circuit in 4 pipe system.

### > AIR FILTER

Washable air filter made of beehive polypropylene, installed on galvanized sheet frame with safety grille, easy to remove for maintenance.

The filter may be secured to the unit by means of screws.

In the "U" version the air filters are inserted in the intake grilles on the front panel of the cover cabinet.

The innovative **BIOXIGEN** system, applicable on all units, guarantees high standards of quality and purification of interior air as well as of the fan coil unit itself.

### > CONTROL PANELS

New control panels for controlling and regulating the temperature by means of a microprocessor-based system, which adapts the operation of the fan coil automatically when room conditions change.

FLAT fan coil units can be connected to ERGO network.

## 3 AVAILABLE ACCESSORIES

### CONTROL PANELS

- **CB:** Speed switch, installation on the unit
- **TIB:** Speed switch mounted on the unit, thermostat and summer/winter selecting switch
- **MYCOMFORT BASE:** Wall-mounted microprocessor control - GALLETTI model MYCOMFORT BASE
- **MYCOMFORT MEDIUM:** Wall-mounted microprocessor control - GALLETTI model MYCOMFORT MEDIUM
- **MYCOMFORT LARGE:** Wall-mounted microprocessor control - GALLETTI model MYCOMFORT LARGE
- **LED503:** Recess wall-mounted microprocessor control
- **MCSWE:** Water probe for microprocessor controls model MYCOMFORT BASE, MEDIUM, LARGE and LED503.
- **MCSUE:** Remote humidity probe for on-board microprocessor controls model MYCOMFORT MEDIUM and LARGE.
- **KBFLAE KIT** for on-board installation on FLAT (1 air probe + bracket + on-board LCD controller frame + wiring kit)
- **TC:** Electromechanical thermostat for minimum water temperature in heating mode, mounted on the heat exchanger
- **KP:** Power interface for connecting in parallel up to 4 fan coil units to one control
- **CD:** Recessed wall-mounted speed switch
- **CDE:** Wall-mounted speed switch
- **TD:** Wall-mounted speed switch, electromechanical thermostat and summer-winter selecting switch
- **TDC:** Wall-mounted speed switch and electromechanical thermostat.
- **TD4T:** Wall-mounted speed switch, electromechanical thermostat and summer-winter selecting switch for 2 or 4-pipe systems with valves

### MOTORISED VALVES

- **VK:** 2/3-way valve with ON/OFF electrothermal motor and hydraulic kit for standard heat exchanger
- **VKDF:** 2/3-way valve with ON/OFF electrothermal motor and hydraulic kit for DF heat exchanger
- **GIVK:** Valve insulation shell
- **BV:** Auxiliary water drip tray for vertical installation fan coil units
- **BH:** Auxiliary water drip tray for horizontal installation fan coil units

### ADDITIONAL HEAT EXCHANGER

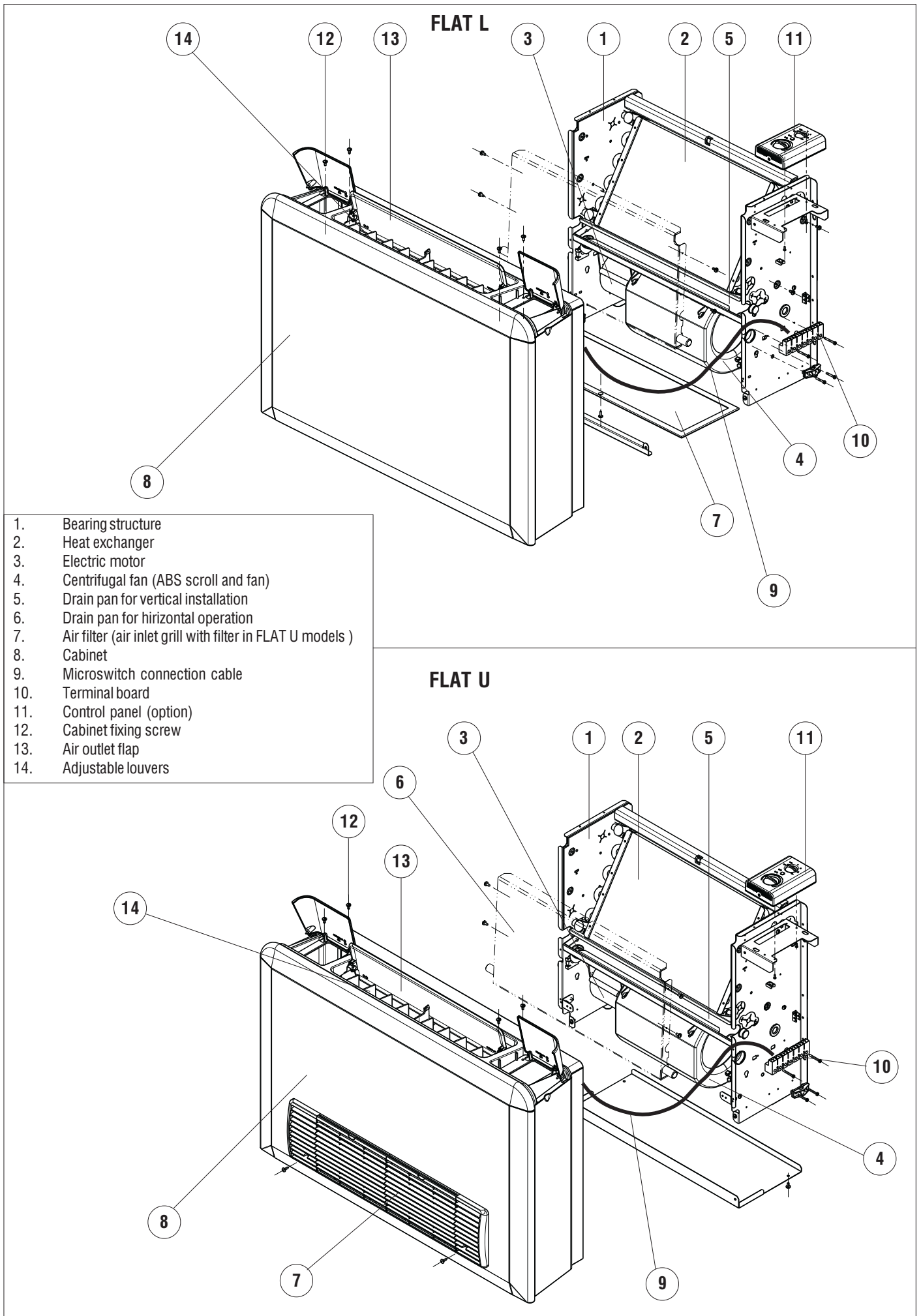
- **DF:** 1 row additional heat exchanger for 4-pipe systems (hot water circuit)

### FEET AND COVERING PANELS

- **ZL:** Two support covering feet
- **PV:** Rear painted panel for vertical installation fan coil units with cabinet
- **PH:** Rear painted panel for horizontal installation fan coil units with cabinet

### BIOXIGEN

Bioxigen is an innovative "air ionisation" system that exploits an oxidation-reduction process to clean the air of germs, bacteria, spores, pollen and mould and mitigate the presence of harmful polluting airborne substances and compounds.



## 4 RATED TECHNICAL FEATURES

### 4.1 FAN COILS WITH 1 HEAT EXCHANGER (2 PIPE SYSTEM)

FLAT	Fan speed		10	20	30	40	50	60	70
Total cooling capacity <sub>1</sub>	(High)	kW	1,93	2,27	2,71	2,92	3,32	4,16	4,46
Sensible cooling capacity <sub>1</sub>	(High)	kW	1,40	1,72	2,09	2,26	2,60	3,37	3,70
Water flow		l/h	330	390	465	501	569	714	765
Pressure drop		kPa	10	13	7	10	6	8	11
Heating capacity <sub>2</sub>	(High)	kW	2,31	2,85	3,27	3,48	4,03	5,47	5,87
Water flow		l/h	332	389	465	501	570	714	765
Pressure drop		kPa	8	12	6	8	5	7	10
Coil water content		dm <sup>3</sup>	0,78	0,78	1,07	1,07	1,36	1,36	1,36
Hydraulic connections		inches	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Air flow	(High)	m <sup>3</sup> /h	305	378	467	520	593	800	911
	(med)	m <sup>3</sup> /h	226	284	344	407	466	552	659
	(low)	m <sup>3</sup> /h	197	216	240	283	370	406	482
Power supply		V/ph/Hz	230 / 1 / 50						
Max. current absorbed	(High)	A	0,17	0,21	0,26	0,27	0,33	0,42	0,43
Max. power input	(High)	W	38	47	59	61	67	95	99
Sound power <sub>4</sub>	(High)	dB(A)	44	50	44	48	50	56	58
	(med)	dB(A)	36	44	38	42	42	48	51
	(low)	dB(A)	32	38	28	33	36	42	43

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

2 Inlet water temperature 50°C, water flow rate same as in cooling mode, inlet air temperature 20°C

4 Sound power measured according to ISO 3741 and ISO 3742.

### 4.2 FAN COILS WITH 2 HEAT EXCHANGERS (4 PIPE SYSTEM)

FLAT DF	Fan speed		10	20	30	40	50	60	70
Total cooling capacity <sub>1</sub>	(High)	kW	1,79	2,09	2,57	2,75	3,12	3,90	4,18
Sensible cooling capacity <sub>1</sub>	(High)	kW	1,31	1,60	1,99	2,14	2,47	3,19	3,50
Water flow		l/h	307	359	440	472	535	668	717
Pressure drop		kPa	9	12	7	9	6	7	9
Heating capacity <sub>3</sub>	(High)	kW	2,01	2,24	2,95	3,11	3,84	4,47	4,77
Water flow		l/h	176	197	259	273	337	392	418
Pressure drop		kPa	6	7	15	17	4	5	6
Cooling coil water content		dm <sup>3</sup>	0,8	0,8	1,1	1,1	1,4	1,4	1,4
DF heating coil water content		dm <sup>3</sup>	0,2	0,2	0,3	0,3	0,4	0,4	0,4
Max. operating pressure		bar	10	10	10	10	10	10	10
Cooling coil hydraulic connections		inches	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
DF heating coil hydraulic connections		inches	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Air flow	(High)	m <sup>3</sup> /h	289	359	451	502	569	768	873
	(med)	m <sup>3</sup> /h	215	270	332	393	447	530	631
	(low)	m <sup>3</sup> /h	187	205	232	273	356	390	462
Power supply		V/ph/H	230 / 1 / 50						
Max. current absorbed	(High)	A	0,17	0,21	0,26	0,27	0,33	0,42	0,43
Max. power input	(High)	W	38	47	59	61	67	95	99
Sound power <sub>4</sub>	(High)	dB(A)	44	50	44	48	50	56	58
	(med)	dB(A)	36	44	38	42	42	48	51
	(low)	dB(A)	32	38	28	33	36	42	43

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

3 Water temperature 70/60°C, inlet air temperature 20°C

4 Sound power measured according to ISO 3741 and ISO 3742.

### 4.3 WEIGHTS

FLAT		10	20	30	40	50	60	70
L	Kg	13,5	13,5	16,5	16,5	19	19	19
U	Kg	13,5	13,5	17	17	19,5	19,5	19,5

## 5 PERFORMANCE

### 5.1 COOLING MODE, MODELS WITH 1 HEAT EXCHANGER

**T<sub>bs1</sub>** Dry bulb air inlet temperature  
**T<sub>bu1</sub>** Wet bulb air inlet temperature  
**Tw<sub>1</sub>** Inlet water temperature  
**Tw<sub>2</sub>** Outlet water temperature  
**Vr** Fan speed:  
     **max** high  
     **med** medium  
     **min** low

**PFT** Total cooling capacity  
**PFS** Sensible cooling capacity  
**Qw** Waterflow  
**Δpw** Pressure drop on water side

T <sub>bs1</sub> / T <sub>bu1</sub> (UR)		25°C / 18°C (51%)															
Tw <sub>1</sub> / Tw <sub>2</sub>		6°C / 11°C				7°C / 12°C				8°C / 13°C				9°C / 14°C			
FLAT	Vr	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw
		kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
10	max	1,85	1,31	317	10	1,61	1,21	277	8	1,36	1,11	233	6	1,06	1,00	183	4
	med	1,40	0,99	241	6	1,22	0,92	209	5	1,02	0,84	174	3	0,83	0,77	143	2
	min	1,25	0,88	214	5	1,08	0,82	186	4	0,90	0,74	155	3	0,78	0,70	134	2
20	max	2,18	1,61	374	13	1,90	1,50	326	10	1,60	1,38	275	7	n.d.	1,30	223	5
	med	1,67	1,23	287	8	1,45	1,14	250	6	1,22	1,05	209	4	n.d.	0,99	170	3
	min	1,34	0,97	229	5	1,16	0,90	199	4	0,96	0,82	165	3	0,81	0,76	139	2
30	max	2,59	1,95	445	7	2,22	1,80	382	5	1,80	1,64	310	4	n.d.	1,54	264	3
	med	1,95	1,46	334	4	1,64	1,34	282	3	1,39	1,24	239	2	n.d.	1,23	211	2
	min	1,45	1,07	249	2	1,31	1,01	225	2	1,17	0,95	200	2	1,02	0,89	175	2
40	max	2,80	2,10	480	9	2,40	1,94	412	7	1,96	1,77	337	5	n.d.	1,66	285	4
	med	2,22	1,66	380	6	1,88	1,53	323	4	1,49	1,38	256	3	n.d.	1,35	232	2
	min	1,60	1,20	275	3	1,42	1,13	243	3	1,26	1,06	216	2	1,09	1,00	188	2
50	max	3,16	2,41	541	6	2,65	2,21	455	4	n.d.	2,05	352	3	n.d.	1,91	328	2
	med	2,47	1,90	423	4	2,07	1,74	355	3	1,83	1,65	314	2	n.d.	1,62	279	2
	min	2,06	1,56	352	3	1,85	1,48	318	2	1,64	1,40	282	2	1,43	1,32	245	1
60	max	3,97	3,12	681	8	3,69	2,90	581	6	n.d.	2,58	444	4	n.d.	2,36	405	3
	med	2,82	2,21	483	4	2,33	2,02	401	3	n.d.	1,90	327	2	n.d.	1,77	305	2
	min	2,13	1,66	365	3	1,92	1,58	329	2	1,70	1,49	292	2	n.d.	1,47	252	1
70	max	4,26	3,42	731	10	3,64	3,18	624	7	n.d.	2,78	478	5	n.d.	2,54	437	4
	med	3,19	2,54	546	6	2,67	2,34	458	4	n.d.	2,07	355	3	n.d.	1,93	331	2
	min	2,43	1,91	414	4	2,04	1,77	351	3	1,81	1,68	310	2	n.d.	1,61	276	2
T <sub>bs1</sub> / T <sub>bu1</sub> (UR)		27°C / 19°C (47%)															
Tw <sub>1</sub> / Tw <sub>2</sub>		6°C / 11°C				7°C / 12°C				8°C / 13°C				9°C / 14°C			
FLAT	Vr	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw
		kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
10	max	2,15	1,49	369	13	1,93	1,40	330	10	1,68	1,30	289	8	1,42	1,20	244	6
	med	1,64	1,14	281	8	1,46	1,06	251	6	1,28	0,99	219	5	1,07	0,91	184	4
	min	1,46	1,01	250	6	1,30	0,95	224	5	1,13	0,88	195	4	0,95	0,81	163	3
20	max	2,54	1,83	435	16	2,27	1,72	390	13	1,99	1,61	341	10	1,68	1,50	288	8
	med	1,95	1,40	334	10	1,74	1,31	299	8	1,52	1,23	261	7	1,28	1,14	220	5
	min	1,56	1,11	267	7	1,39	1,04	239	6	1,21	0,97	208	4	1,01	0,89	174	3
30	max	3,05	2,23	524	9	2,71	2,09	465	7	2,34	1,95	401	6	1,92	1,79	329	4
	med	2,32	1,68	397	6	2,04	1,57	351	4	1,74	1,45	299	3	1,42	1,33	243	2
	min	1,68	1,21	289	3	1,48	1,13	255	3	1,34	1,08	230	2	1,19	1,02	205	2
40	max	3,29	2,40	564	12	2,92	2,26	569	10	2,52	2,10	433	7	2,08	1,94	357	5
	med	2,62	1,91	450	8	2,32	1,79	398	6	1,99	1,66	341	5	1,60	1,52	275	3
	min	1,93	1,39	331	5	1,69	1,30	290	4	1,45	1,20	248	3	1,28	1,14	220	2
50	max	3,77	2,78	646	8	3,32	2,60	569	6	2,82	2,41	484	5	n.d.	2,25	386	3
	med	3,00	2,21	514	5	2,61	2,06	449	4	2,16	1,89	371	3	n.d.	1,85	317	2
	min	2,43	1,79	417	4	2,10	1,66	360	3	1,89	1,58	325	2	1,68	1,50	288	2
60	max	4,71	3,58	807	10	4,16	3,37	714	8	3,57	3,15	613	6	n.d.	2,83	487	4
	med	3,39	2,55	582	6	2,97	2,39	510	5	2,50	2,21	429	3	n.d.	2,02	347	2
	min	2,60	1,94	445	4	2,24	1,80	384	3	1,96	1,69	336	2	1,73	1,61	298	2
70	max	5,05	3,92	865	13	4,46	3,70	765	11	3,83	3,46	657	8	n.d.	3,05	523	5
	med	3,81	2,93	654	8	3,35	2,75	575	6	2,84	2,56	487	5	n.d.	2,29	393	3
	min	2,95	2,23	505	5	2,56	2,08	440	4	2,11	1,91	362	3	n.d.	1,83	314	2

## 5 PERFORMANCES

### 5.2 COOLING MODE, MODELS WITH 2 HEAT EXCHANGERS (4 PIPESYSTEMS)

**Tbs<sub>1</sub>** Dry bulb air inlet temperature  
**Tbu<sub>1</sub>** Wet bulb air inlet temperature  
**Tw<sub>1</sub>** Inlet water temperature  
**Tw<sub>2</sub>** Outlet water temperature  
**Vr** Fan speed:  
     **max** high  
     **med** medium  
     **min** low

**PFT** Total cooling capacity  
**PFS** Sensible cooling capacity  
**Qw** Waterflow  
**Δpw** Pressure drop on water side

Tbs <sub>1</sub> / Tbu <sub>1</sub> (UR)		25°C / 18°C (51%)															
Tw <sub>1</sub> / Tw <sub>2</sub>		6°C / 11°C				7°C / 12°C				8°C / 13°C				9°C / 14°C			
FLAT	Vr	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw
		kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
10 DF	max	1,72	1,22	295	9	1,50	1,13	257	7	1,25	1,03	215	5	n.d.	1,02	175	3
	med	1,35	0,95	231	6	1,17	0,88	201	4	0,97	0,80	167	3	0,82	0,74	140	2
	min	1,20	0,85	205	5	1,04	0,78	178	4	0,88	0,72	151	3	0,76	0,67	131	2
20 DF	max	2,01	1,50	345	11	1,75	1,39	301	8	1,47	1,28	253	6	n.d.	1,20	206	4
	med	1,61	1,18	275	7	1,40	1,09	240	6	1,17	1,00	200	4	n.d.	0,95	163	3
	min	1,28	0,92	219	5	1,11	0,85	190	4	0,92	0,78	157	3	0,79	0,73	136	2
30 DF	max	2,45	1,85	421	6	2,10	1,71	360	5	1,69	1,56	290	3	n.d.	1,45	249	2
	med	1,89	1,41	324	4	1,59	1,29	272	3	1,37	1,21	235	2	n.d.	1,20	206	2
	min	1,43	1,04	245	2	1,29	0,99	221	2	1,15	0,93	197	2	1,00	0,87	172	1
40 DF	max	2,63	1,99	451	8	2,25	1,84	387	6	1,83	1,68	314	4	n.d.	1,56	268	3
	med	2,15	1,61	369	6	1,83	1,48	313	4	1,46	1,34	251	3	n.d.	1,32	227	2
	min	1,55	1,16	266	3	1,39	1,10	239	3	1,24	1,04	212	2	1,08	0,97	185	2
50 DF	max	2,96	2,28	508	5	2,47	2,09	424	4	n.d.	1,96	337	2	n.d.	1,83	315	2
	med	2,37	1,83	406	3	2,03	1,69	348	3	1,80	1,60	308	2	n.d.	1,58	271	2
	min	2,01	1,52	346	3	1,82	1,44	312	2	1,61	1,36	277	2	1,40	1,28	241	1
60 DF	max	3,72	2,95	638	7	3,15	2,73	541	5	n.d.	2,42	415	3	n.d.	2,20	379	3
	med	2,72	2,13	466	4	2,24	1,94	384	3	n.d.	1,86	319	2	n.d.	1,73	297	2
	min	2,09	1,62	358	2	1,88	1,53	322	2	1,67	1,45	286	2	1,45	1,37	249	1
70 DF	max	3,99	3,23	684	9	3,39	3,00	582	7	n.d.	2,60	447	4	n.d.	2,38	408	3
	med	3,07	2,44	527	6	2,57	2,25	441	4	n.d.	2,02	347	3	n.d.	1,88	323	2
	min	2,32	1,84	398	3	2,01	1,72	344	3	1,78	1,63	305	2	n.d.	1,57	269	2
Tbs <sub>1</sub> / Tbu <sub>1</sub> (UR)		27°C / 19°C (47%)															
Tw <sub>1</sub> / Tw <sub>2</sub>		6°C / 11°C				7°C / 12°C				8°C / 13°C				9°C / 14°C			
FLAT	Vr	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw	PFT	PFS	Qw	Δpw
		kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
10 DF	max	2,00	1,39	343	11	1,79	1,31	307	9	1,56	1,22	268	7	1,32	1,12	226	5
	med	1,57	1,09	269	7	1,40	1,02	241	6	1,22	0,95	210	5	1,02	0,87	176	3
	min	1,40	0,97	240	6	1,25	0,90	214	5	1,08	0,84	186	4	0,90	0,77	155	3
20 DF	max	2,34	1,70	402	14	2,09	1,60	359	12	1,83	1,50	314	9	1,54	1,39	265	7
	med	1,87	1,34	321	10	1,67	1,26	287	8	1,46	1,18	251	6	1,23	1,09	211	4
	min	1,49	1,06	256	6	1,33	0,99	229	5	1,16	0,92	199	4	0,97	0,85	166	3
30 DF	max	2,90	2,13	496	8	2,57	1,99	440	7	2,21	1,86	379	5	1,80	1,71	309	4
	med	2,25	1,63	385	5	1,98	1,52	340	4	1,69	1,41	289	3	1,40	1,30	240	2
	min	1,63	1,18	280	3	1,46	1,10	250	2	1,32	1,05	226	2	1,17	0,99	201	2
40 DF	max	3,10	2,28	532	11	2,75	2,14	472	9	2,37	2,00	407	7	1,94	1,84	333	5
	med	2,55	1,86	438	8	2,25	1,74	387	6	1,93	1,61	331	5	1,55	1,47	266	3
	min	1,87	1,35	320	4	1,64	1,25	281	3	1,42	1,17	244	3	1,26	1,11	217	2
50 DF	max	3,55	2,64	609	7	3,12	2,47	535	6	2,63	2,28	452	4	n.d.	2,12	364	3
	med	2,89	2,13	495	5	2,51	1,98	431	4	2,07	1,81	355	3	1,83	1,72	314	2
	min	2,34	1,73	401	3	2,06	1,61	353	3	1,85	1,53	318	2	1,65	1,46	283	2
60 DF	max	4,42	3,39	758	9	3,90	3,19	668	7	3,33	2,98	572	6	n.d.	2,66	457	4
	med	3,28	2,47	563	6	2,87	2,30	492	4	2,40	2,13	413	3	n.d.	1,97	339	2
	min	2,50	1,87	429	3	2,15	1,73	369	3	1,92	1,64	329	2	1,70	1,56	292	2
70 DF	max	4,73	3,71	812	12	4,18	3,50	717	9	3,57	3,27	613	7	n.d.	2,86	491	5
	med	3,68	2,82	632	8	3,23	2,64	555	6	2,73	2,46	469	4	n.d.	2,21	379	3
	min	2,84	2,15	487	5	2,46	2,00	423	4	2,05	1,84	351	3	n.d.	1,78	306	2

## 5 PERFORMANCES

### 5.3 HEATING MODE, MODELS WITH 1 HEAT EXCHANGER

**Tbs<sub>1</sub>** Dry bulb air inlet temperature

**Tw<sub>1</sub>** Water inlet temperature

**Tw<sub>2</sub>** Water outlet temperature

**Vr** fan speed

**max** high

**med** medium

**min** low

**PT** Heating capacity

**Qw** Waterflow

**Δpw** Water pressure drop

The fan coil heating capacity with fan switched off has to be considered equal to about 10% of the theoretical design heating capacity, with good approximation.

Tbs <sub>1</sub>		20°C											
Tw <sub>1</sub> / Tw <sub>2</sub>		45 / 40°C			60°C / 50°C			70°C / 60°C			85°C / 70°C		
FLAT	Vr	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw
		kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
10	max	1,92	335	9	3,01	263	6	3,89	341	8	5,00	294	6
	med	1,45	253	5	2,27	199	3	2,95	259	5	3,79	223	4
	min	1,30	226	4	2,04	178	3	2,64	232	4	3,40	200	3
20	max	2,39	416	12	3,71	327	8	4,84	424	12	6,21	365	9
	med	1,84	319	8	2,87	251	5	3,71	326	7	4,77	281	6
	min	1,52	264	6	2,38	208	4	3,07	269	5	3,95	232	4
30	max	2,72	473	6	4,25	371	4	5,51	484	6	7,07	416	4
	med	2,04	356	4	3,19	279	2	4,16	365	4	5,34	314	3
	min	1,55	269	2	2,42	211	1	3,15	276	2	4,04	238	2
40	max	2,89	503	8	4,51	394	5	5,86	514	8	7,51	441	6
	med	2,32	402	5	3,61	316	3	4,70	413	5	6,03	354	4
	min	1,76	305	3	2,75	240	2	3,58	314	3	4,59	270	2
50	max	3,36	584	5	5,24	458	3	6,82	598	5	8,74	514	4
	med	23,67	464	4	4,16	363	2	5,43	477	3	6,97	410	3
	min	2,24	389	3	3,50	305	2	4,57	401	3	5,86	345	2
60	max	4,61	802	8	7,20	629	5	9,35	820	8	11,98	705	6
	med	3,36	584	5	5,24	458	3	6,81	597	5	8,74	514	3
	min	2,64	459	3	4,13	361	2	5,37	471	3	6,90	406	2
70	max	4,96	862	11	7,73	676	7	10,05	882	10	12,88	757	8
	med	3,76	653	7	5,86	512	4	7,61	668	6	9,76	574	5
	min	2,96	516	4	4,63	405	3	6,03	529	4	7,74	455	3
Tbs <sub>1</sub>		22°C											
Tw <sub>1</sub> / Tw <sub>2</sub>		45 / 40°C			60°C / 50°C			70°C / 60°C			90°C / 70°C		
FLAT	Vr	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw
		kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
10	max	1,74	303	7	2,82	247	5	3,70	325	8	4,81	283	6
	med	1,32	229	5	2,13	186	3	2,81	246	5	3,64	214	4
	min	1,18	205	4	1,91	167	3	2,52	221	4	3,27	192	3
20	max	2,17	377	10	3,51	307	7	4,60	404	11	5,97	351	8
	med	1,66	289	7	2,70	236	4	3,54	310	7	4,59	270	5
	min	1,37	239	5	2,23	195	3	2,92	256	5	3,80	224	4
30	max	2,46	428	5	3,98	348	3	5,25	461	6	6,80	400	4
	med	1,85	322	3	2,99	261	2	3,96	348	3	5,13	302	3
	min	1,40	243	2	2,27	198	1	2,99	263	2	3,89	229	2
40	max	2,62	455	7	4,23	369	4	5,57	489	7	7,22	424	5
	med	2,09	364	5	3,38	296	3	4,48	393	5	5,80	341	4
	min	1,59	276	3	2,57	225	2	3,40	298	3	4,42	260	2
50	max	3,04	528	5	4,91	429	3	6,49	569	5	8,41	494	4
	med	2,41	419	3	3,90	340	2	5,17	454	3	6,70	394	2
	min	2,02	352	2	3,27	286	1	4,34	381	2	5,63	331	2
60	max	4,18	727	7	6,76	591	5	8,90	781	7	11,53	678	6
	med	3,03	528	4	4,91	429	3	6,48	568	4	8,40	494	3
	min	2,39	415	3	3,87	338	2	5,11	448	3	6,63	390	2
70	max	4,49	781	9	7,26	634	6	9,57	839	9	12,39	728	7
	med	3,40	591	6	5,49	480	4	7,25	636	6	9,39	552	4
	min	2,68	466	4	4,34	379	2	5,74	503	4	7,74	438	3



## 5 PERFORMANCES

### 5.4 HEATING MODE MODELS WITH 2 HEAT EXCHANGERS (4 PIPE SYSTEMS)

**Tbs<sub>1</sub>** Dry bulb air inlet temperature  
**Tw<sub>1</sub>** Water inlet temperature  
**Tw<sub>2</sub>** Water outlet temperature  
**Vr** fan speed

**PT** Heating capacity  
**Qw** Water flow  
**Δpw** Water pressure drop

**max** high  
**med** medium  
**min** low

The fan coil heating capacity with fan switched off has to be considered equal to about 10% of the theoretical design heating capacity, with good approximation.

Tbs <sub>1</sub>		20°C											
Tw <sub>1</sub> / Tw <sub>2</sub>		45 / 40°C			60°C / 50°C			70°C / 60°C			85°C / 70°C		
FLAT	Vr	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw
		kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
10 DF	max	0,98	171	6	1,51	132	4	2,01	177	6	2,57	151	4
	med	0,81	140	4	1,24	109	3	1,66	146	4	2,12	124	3
	min	0,75	130	4	1,15	101	2	1,54	135	4	1,97	116	3
20 DF	max	1,09	190	7	1,68	147	4	2,24	197	7	2,85	168	5
	med	0,91	159	5	1,41	123	3	1,88	165	5	2,40	141	4
	min	0,79	138	4	1,22	107	2	1,64	144	4	2,09	123	3
30 DF	max	1,45	252	16	2,24	196	10	2,95	259	15	3,76	221	11
	med	1,19	207	11	1,84	161	7	2,42	213	11	3,09	182	8
	min	0,99	172	8	1,54	134	5	2,02	177	8	2,57	151	6
40 DF	max	1,53	266	17	2,36	206	10	3,11	273	17	3,97	234	12
	med	1,31	228	13	2,03	177	8	2,67	234	13	3,40	200	9
	min	1,09	190	10	1,69	148	6	2,22	195	9	2,84	167	7
50 DF	max	1,87	325	5	2,87	251	3	3,84	337	4	4,90	288	3
	med	1,58	275	3	2,43	213	2	3,28	287	3	4,18	246	2
	min	1,40	244	3	2,16	189	2	2,92	256	3	3,72	219	2
60 DF	max	2,17	378	5	3,35	292	3	4,47	393	5	5,70	335	4
	med	1,74	303	4	2,68	234	2	3,60	316	4	4,58	269	3
	min	1,49	259	3	2,27	200	2	3,09	271	3	3,94	232	2
70 DF	max	2,32	403	6	3,56	311	4	4,77	418	6	6,07	357	4
	med	1,93	335	4	2,96	259	3	3,96	347	4	5,04	296	3
	min	1,65	287	3	2,54	222	2	3,41	299	3	4,34	255	2
Tbs <sub>1</sub>		22°C											
Tw <sub>1</sub> / Tw <sub>2</sub>		45 / 40°C			60°C / 50°C			70°C / 60°C			85°C / 70°C		
FLAT	Vr	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw	PT	Qw	Δpw
		kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
10 DF	max	0,88	153	5	1,41	123	3	1,91	168	5	2,47	145	4
	med	0,72	126	3	1,16	101	2	1,58	138	4	2,03	120	3
	min	0,67	117	2	1,08	94	2	1,47	129	3	1,89	111	2
20 DF	max	0,98	171	6	1,57	137	4	2,13	187	6	2,74	161	5
	med	0,82	143	4	1,31	115	3	1,79	157	5	2,30	135	3
	min	0,71	124	3	1,14	100	2	1,56	137	4	2,01	118	3
30 DF	max	1,31	227	13	2,10	183	9	2,81	246	14	3,62	213	10
	med	1,08	187	9	1,73	151	6	2,31	202	10	2,97	175	7
	min	0,89	155	7	1,44	126	4	1,92	168	7	2,48	146	5
40 DF	max	1,38	240	14	2,21	193	9	2,96	260	15	3,82	225	11
	med	1,18	206	11	1,90	166	7	2,54	223	12	3,27	192	9
	min	0,99	172	8	1,59	139	5	2,12	186	8	2,73	161	6
50 DF	max	1,67	291	4	2,67	234	2	3,65	320	4	4,70	277	3
	med	1,42	246	3	2,26	198	2	3,11	273	3	4,01	236	2
	min	1,25	218	2	2,01	175	1	2,77	243	3	3,57	210	2
60 DF	max	1,96	340	5	3,13	273	3	4,25	373	5	5,47	322	4
	med	1,56	271	3	2,50	218	2	3,42	300	3	4,40	259	2
	min	1,33	232	2	2,13	186	1	2,94	257	3	3,78	223	2
70 DF	max	2,08	362	5	3,33	291	3	4,53	397	5	5,83	342	4
	med	1,72	300	4	2,76	241	2	3,76	330	4	4,84	285	3
	min	1,48	257	3	2,36	206	2	3,24	284	3	4,17	245	2

## 5 PERFORMANCES

### 5.5 SOUND LEVELS

**Vr** fan speed:  
**3**=high  
**2**=medium  
**1**=low

**Lw** Octave band sound power level

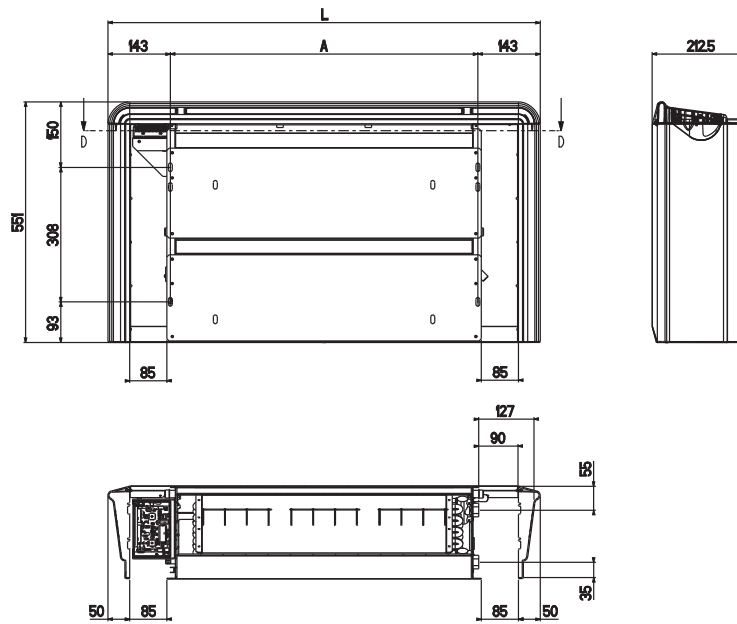
**Lw<sub>A</sub>** A - weighted sound power level

**Lp<sub>A</sub>** A - weighted sound pressure level (1m distance, 4 directional factor)

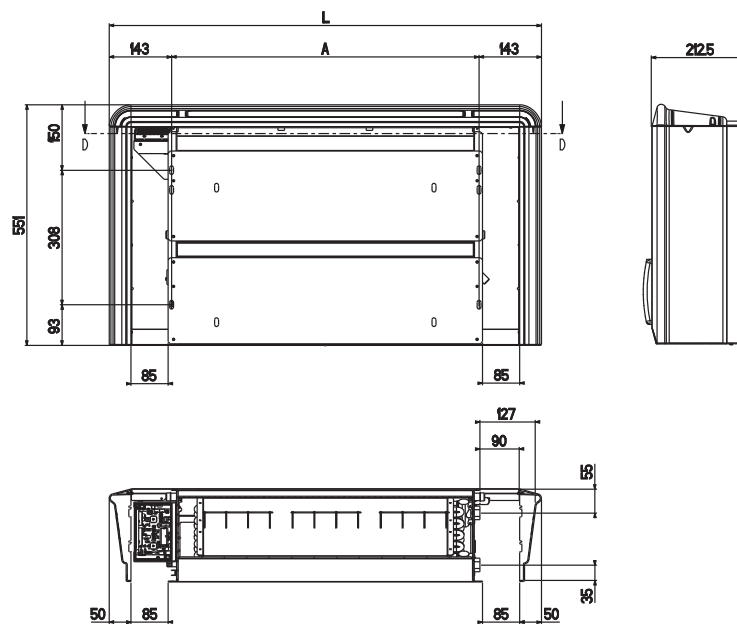
FLAT	Vr	Lw								
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	LwA	LpA
		dB	dB	dB	dB	dB	dB	dB	dB/A	dB/A
10	max	41,7	47,5	44,0	36,5	33,4	21,9	17,6	44	39
	med	34,2	40,6	35,3	26,2	21,7	16,2	16,3	36	31
	min	32,1	37,1	30,1	20,5	16,7	14,7	16,2	32	27
20	max	46,7	52,0	49,1	42,8	39,7	29,9	19,3	50	45
	med	41,3	46,5	43,4	35,7	32,4	19,7	16,4	44	39
	min	37,5	42,3	38,0	28,6	24,9	15,5	17,2	38	33
30	max	42,8	47,2	44,1	36,3	29,2	17,6	16,5	44	39
	med	38,5	41,7	37,6	27,8	20,0	14,3	16,3	38	33
	min	33,3	35,1	29,0	18,2	3,1	16,1	18,2	30	25
40	max	45,8	51,2	48,4	41,2	34,9	22,8	17,7	48	43
	med	40,6	46,1	42,5	33,7	26,2	17,8	17,5	42	37
	min	31,7	38,7	32,5	22,0	16,6	15,5	17,4	33	28
50	max	47,7	52,3	49,6	44,0	37,6	27,2	19,0	50	45
	med	40,2	45,4	42,3	33,6	25,8	18,0	16,9	42	37
	min	35,2	41,2	35,2	26,6	16,5	15,5	16,5	36	31
60	max	55,8	59,0	55,0	49,2	44,3	35,6	24,4	56	51
	med	48,2	52,0	47,4	39,1	33,3	24,2	18,1	48	43
	min	42,2	48,4	39,9	29,0	21,8	19,7	17,8	42	37
70	max	55,8	60,8	57,5	52,0	47,2	39,4	28,4	58	53
	med	49,5	54,1	51,3	43,7	38,2	28,2	19,2	51	46
	min	42,9	46,9	42,9	32,2	25,4	18,2	16,7	43	38
FLAT DF	Vr	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	LwA	LpA
		dB	dB	dB	dB	dB	dB	dB	dB/A	dB/A
10 DF	max	40,7	46,9	43,4	35,7	32,1	20,0	16,1	44	39
	med	36,9	42,6	38,2	28,6	23,2	14,3	17,0	38	33
	min	31,8	39,2	32,6	22,5	15,3	12,6	16,0	34	29
20 DF	max	46,7	52,0	49,1	42,8	39,7	29,9	19,3	50	45
	med	42,3	47,5	44,4	36,7	33,4	20,7	17,4	45	40
	min	39,5	44,3	40,0	30,6	26,9	17,5	19,2	40	35
30 DF	max	42,9	48,4	45,0	36,9	29,6	17,4	16,0	45	40
	med	37,5	43,1	38,7	28,7	20,0	11,9	16,0	39	34
	min	31,1	37,1	30,2	19,0	2,1	12,5	17,1	31	26
40 DF	max	46,8	52,2	49,4	42,2	35,9	23,8	18,7	49	44
	med	41,6	47,1	43,5	34,7	27,2	18,8	18,5	43	38
	min	33,7	40,7	34,5	24,0	18,6	17,5	19,4	35	30
50 DF	max	46,6	52,6	50,1	42,5	36,6	25,0	20,6	50	45
	med	39,0	45,4	42,1	33,4	25,5	14,0	16,0	42	37
	min	36,0	40,8	35,0	26,1	15,6	11,7	16,0	36	31
60 DF	max	52,9	59,2	54,9	48,5	43,3	33,6	25,0	56	51
	med	45,7	52,7	47,7	38,3	31,6	20,3	18,3	48	43
	min	39,3	47,5	42,0	29,9	19,7	18,6	19,3	42	37
70 DF	max	54,6	60,4	56,8	51,4	46,4	37,2	25,5	58	53
	med	47,8	53,4	50,2	43,3	38,6	29,2	18,9	51	46
	min	41,1	46,4	42,7	34,1	29,5	18,6	16,4	43	38

## 6 OVERALL DIMENSIONS

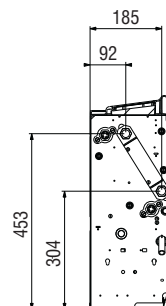
### > FLAT L



### > FLAT U



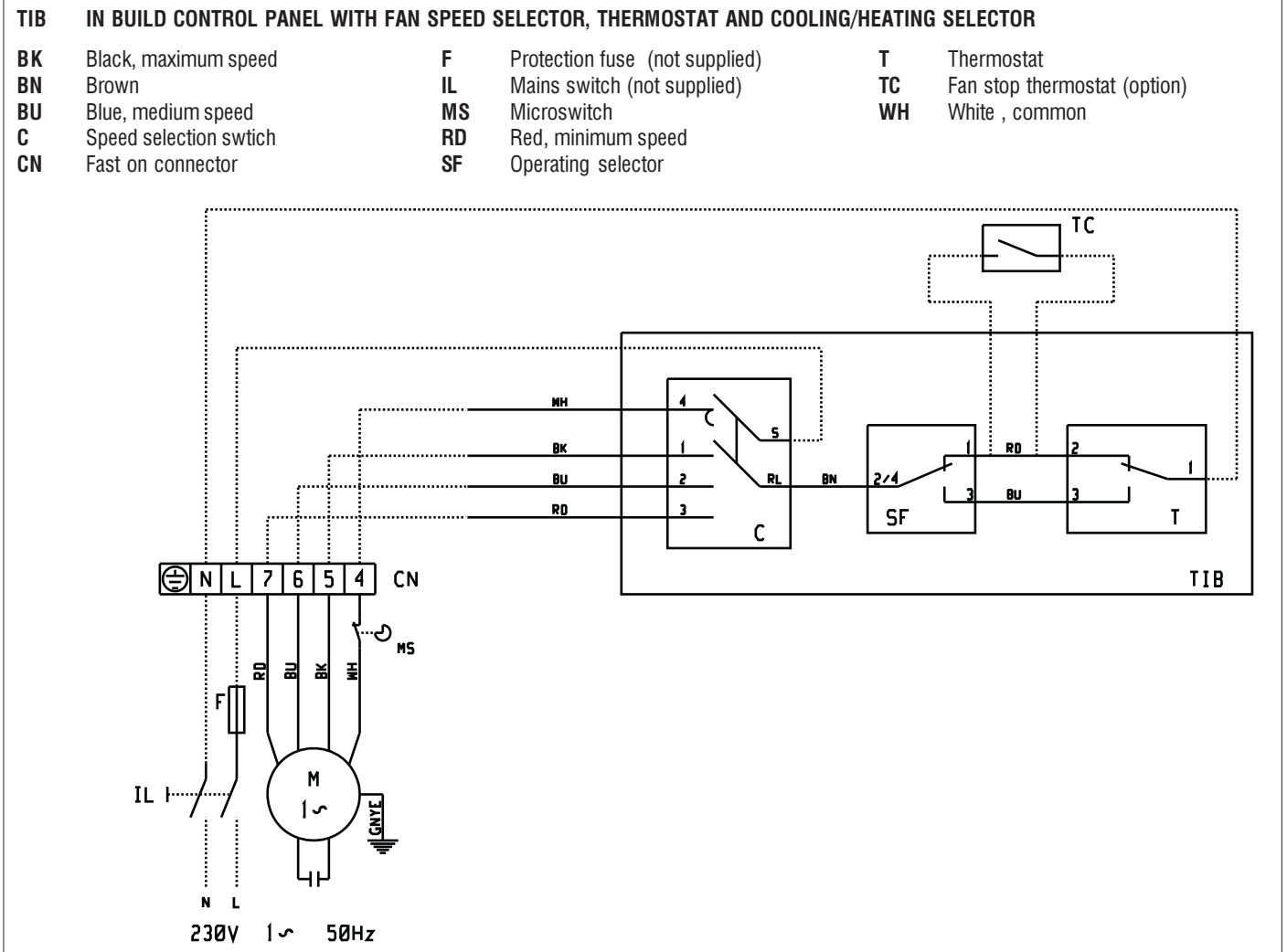
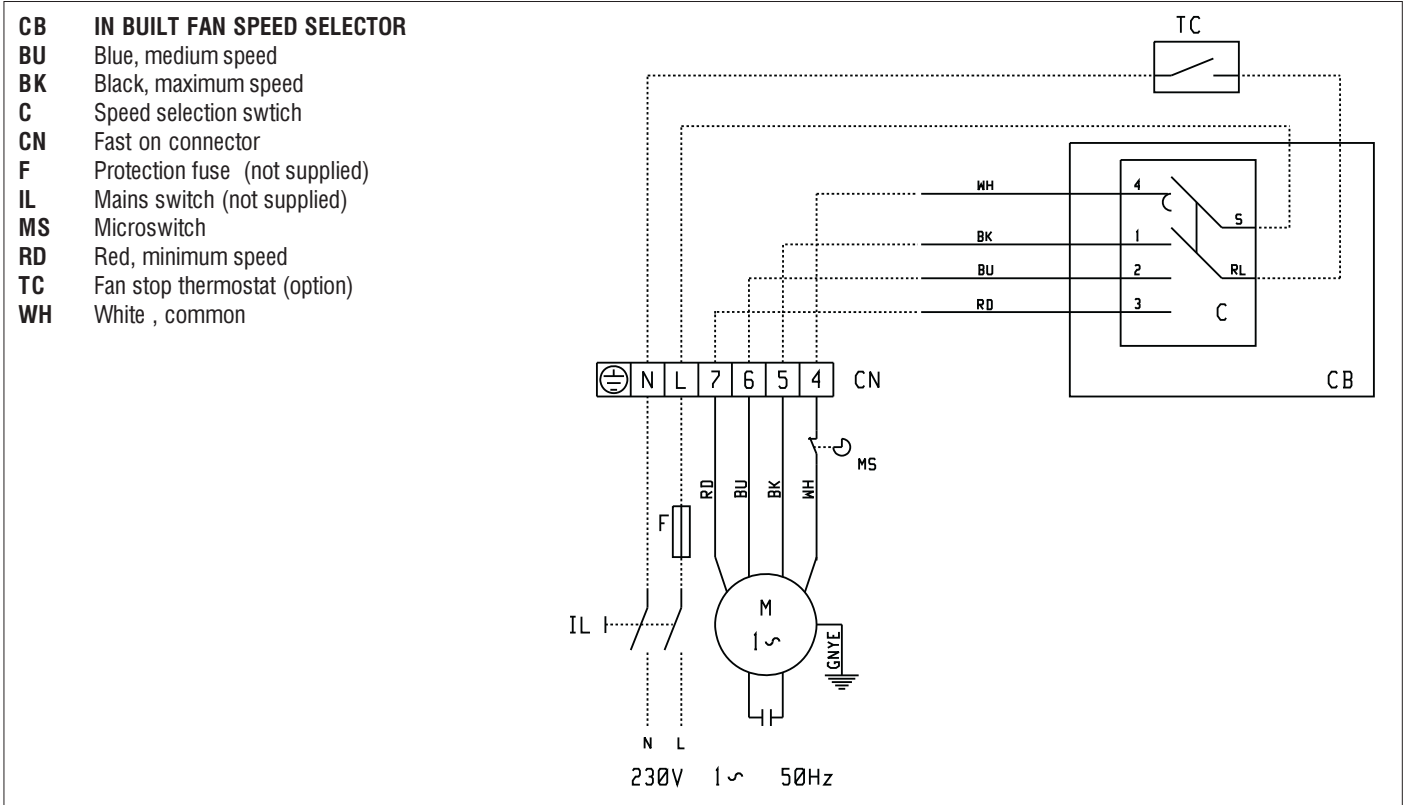
### > ATTACCHI IDRAULICI BATTERIA DF



FLAT		10	20	30	40	50	60	70
A	mm	534	534	704	704	874	874	874
L	mm	820	820	990	990	1160	1160	1160
Diametro attacchi idraulici	pollici femmina gas	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Diametro scarico condensa installazione verticale	mm	16	16	16	16	16	16	16
Diametro scarico condensa installazione orizzontale	mm	17	17	17	17	17	17	17
Peso netto versione L	kg	17,5	17,5	21,5	21,5	24	24	24
Peso netto versione U	kg	18,5	18,5	23	23	25,5	25,5	25,5

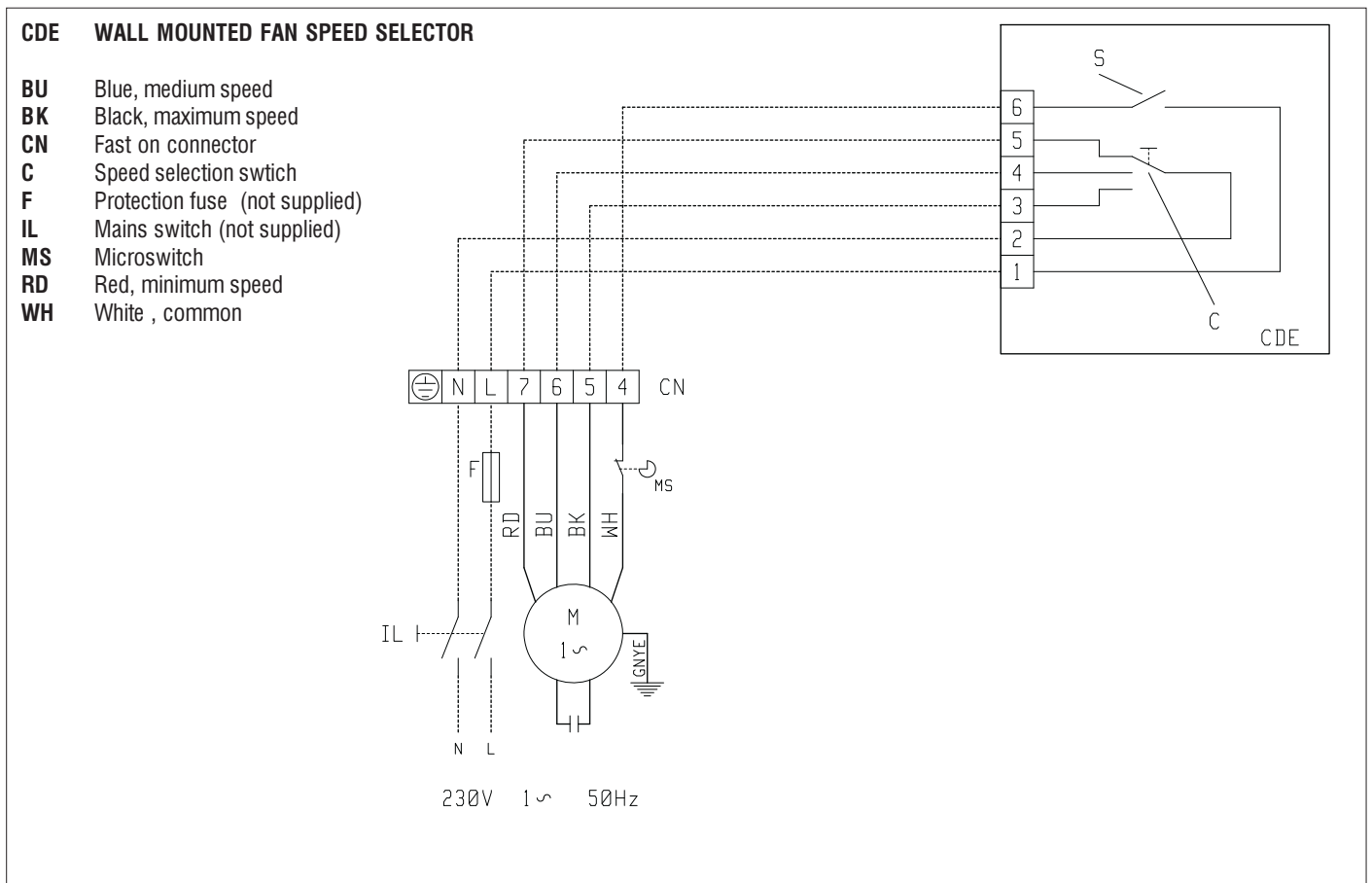
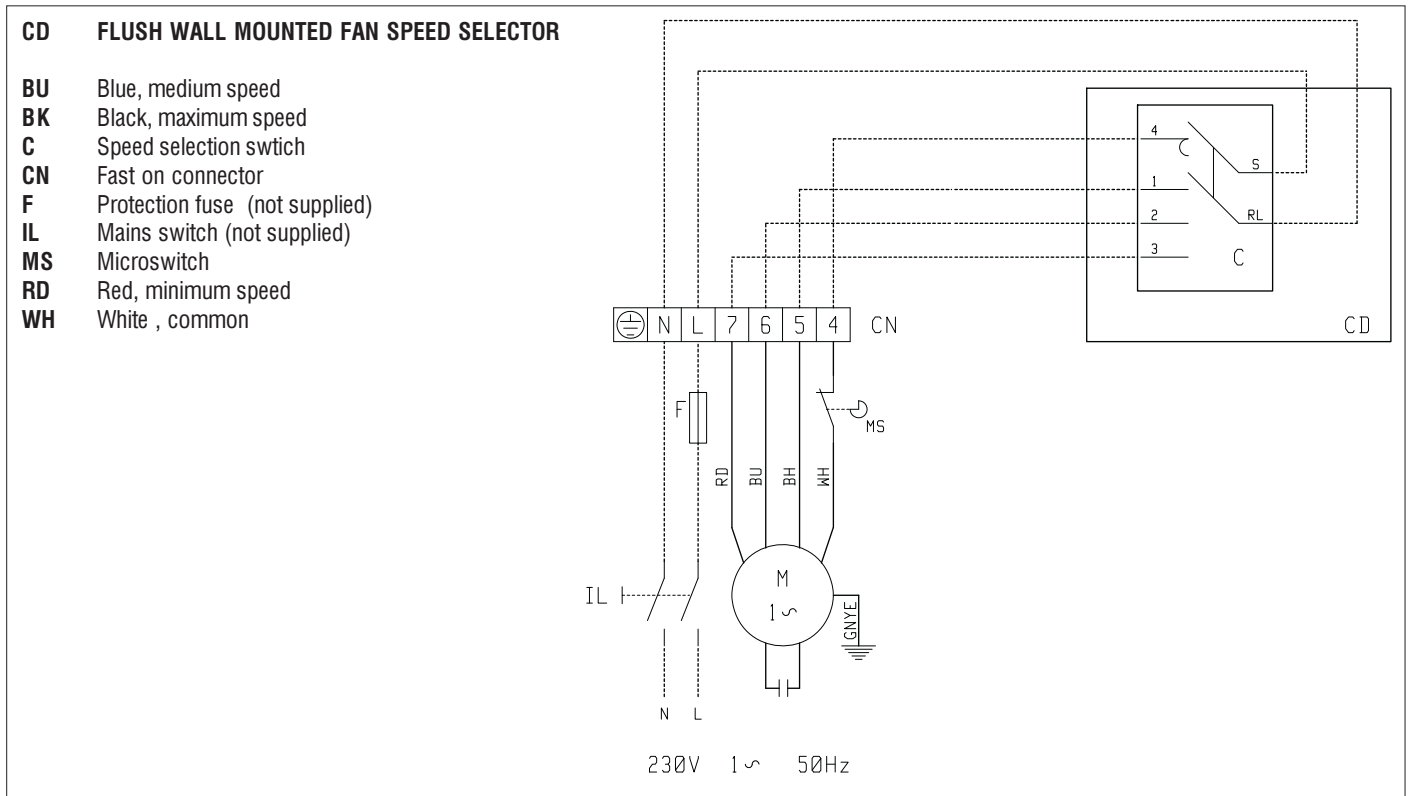
7 WIRING DIAGRAMS

The dashed lines connections must be carried out by the installer. For each unit provide a mains circuit breaker (IL), with opening contacts separated by at least 3 mm and an adequate protection fuse (F).



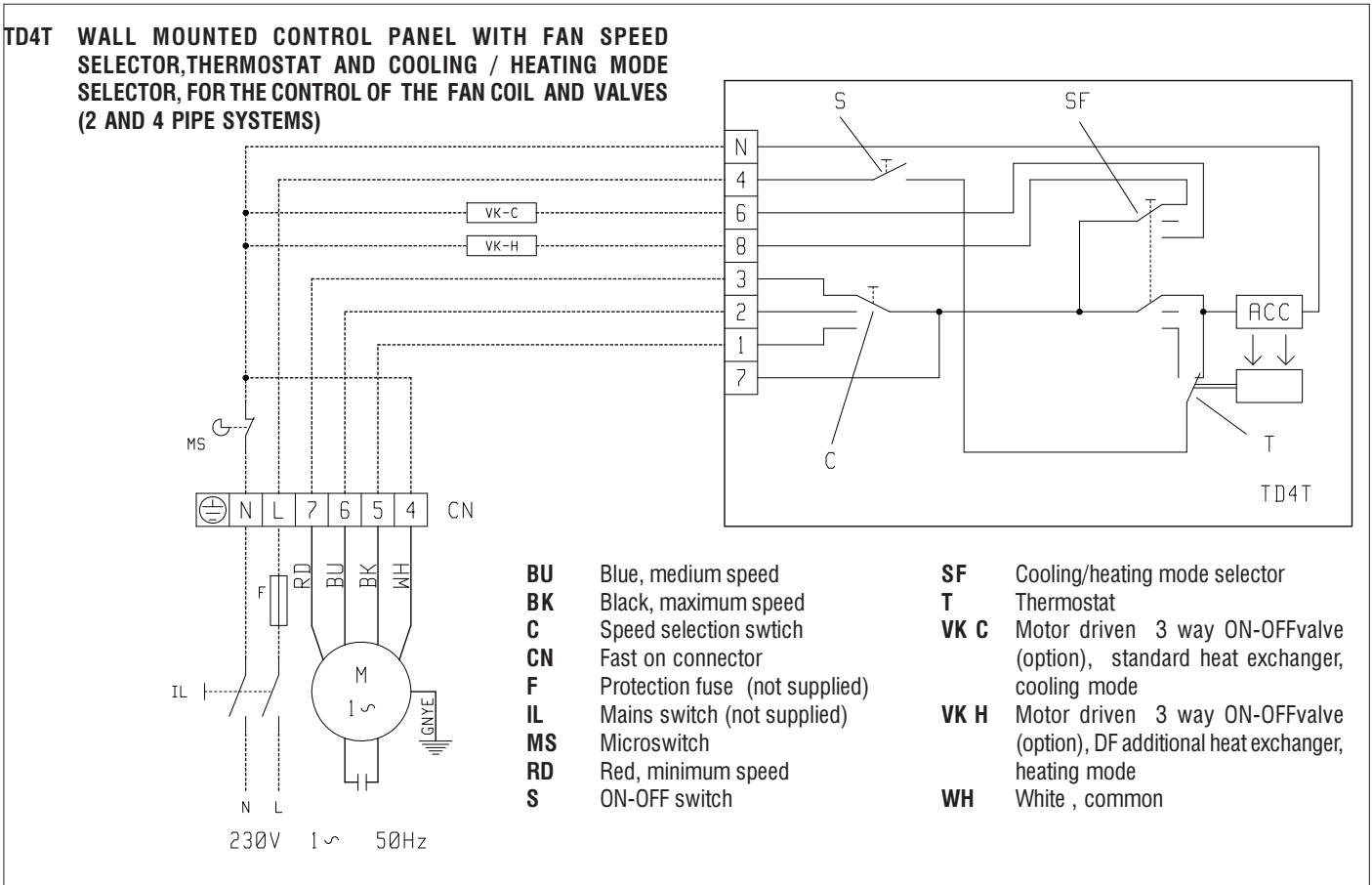
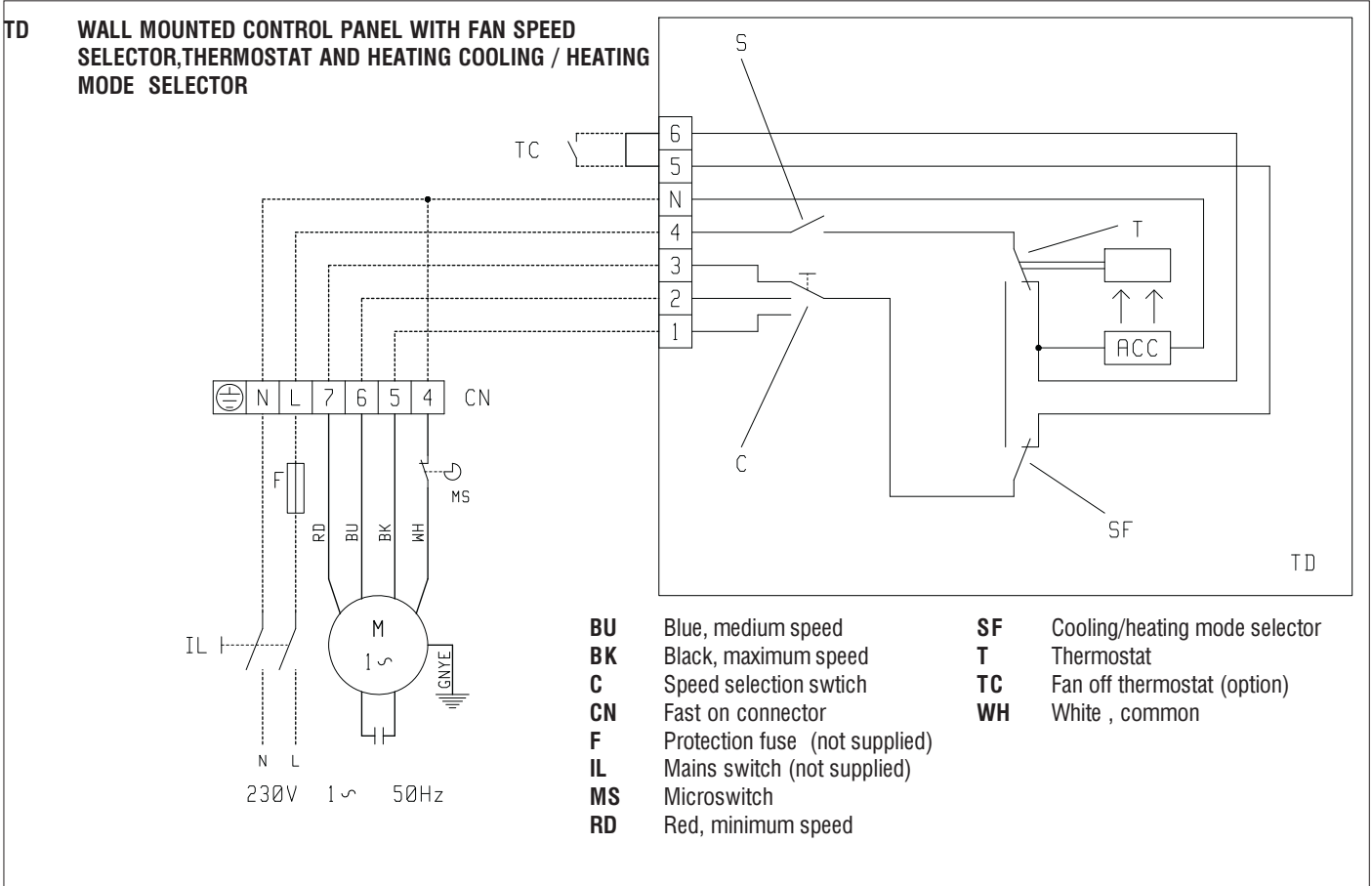
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7 WIRING DIAGRAMS

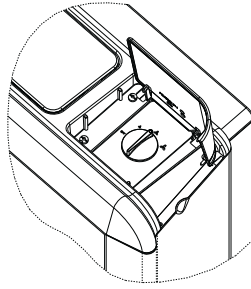
The dashed lines connections must be carried out by the installer. For each unit provide a mains circuit breaker (IL), with opening contacts separated by at least 3 mm and an adequate protection fuse (F).



## 8 ACCESSORIES

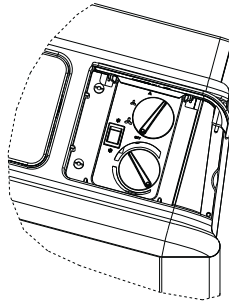
### CB Built in speed selector switch

In built control panel, complete with a 4 positions (3 speed + stop) rotation selector. This control panel allows the ON/OFF and fan speed selection of the fan coil unit.



### TIB In built control with speed selector, thermostat and summer-winter selector

In built control panel allows the fan speed selection, room temperature regulation and heating / cooling mode selection. This control panel is provided with a 4 positions (3 speed + stop) rotation selector, an electromechanical thermostat with a fluid expansion probe (operation range +6/ +30°C) and cooling/heating mode selector.



### CD Flush wall-mounted speed selector

Flush wall mounted control panel is provided with a 4 positions (3 speed + stop) rotation selector. This control panel allows the ON/OFF and fan speed selection of the fan coil unit.



### CDE Wall-mounted speed selector

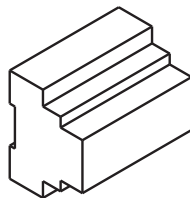
Wall mounted control panel is provided with a 3 positions (3 speed) and switch ON/OFF. This control panel allows the ON/OFF and fan speed selection of the fan coil unit.



### KP Power interface for connection of up to 4 fan coils to a single control panel

The KP master sleeve can be installed to control with a single control panel up to 4 fan coil units (connected in parallel).

This accessory is designed for installation on a DIN drive, usually placed on electric board.



### TD Wall mounted control with speed selector, thermostat and summer-winter selector

Wall mounted control panel complete with fan speed selector, electromechanical thermostat and cooling / heating mode selector.

Fan speed control, regulation of the room temperature and cooling / heating mode selection:

- manual setting of the fan speed;
- room temperature regulation both in cooling / heating mode, by means of fan start/stop, at a manually set temperature.



### TDC Wall mounted control with speed selector and thermostat

Wall mounted control panel complete with fan speed selector, electromechanical thermostat and cooling / heating mode selector.

Fan speed control, regulation of the room temperature and cooling / heating mode selection:

- manual setting of the fan speed;
- room temperature regulation both in cooling / heating mode, by means of fan start/stop, at a manually set temperature.



### TD4T Wall mounted control with speed selector, thermostat and summer-winter selector, for 2/4 pipe system with valves

Wall mounted control panel provided with fan speed selector, electromechanical thermostat, and cooling / heating mode selector; if installed it controls regulating valves.

Fan speed control and regulation of the room temperature:

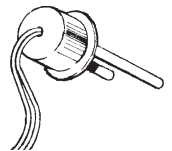
- manual setting of the operation fan speed;
- regulation of the room temperature for 2 and 4 pipe systems, both in heating and cooling mode, by means of fan start/stop at a manually set temperature and by means of opening and closing of the regulating valve.



### TC Fan stop thermostat: electromechanical thermostat for minimum water temperature during heating

Fan stop thermostat with automatic resetting, it stops the fan motor assembly when the water temperature in the heat exchanger decreases under the set value (42°C).

Useful only in the heating mode for installation on the finned pack of the heat exchanger.



## 8 ACCESSORIES

### MYCOMFORT BASE - GALLETTI wall-mounted microprocessor control, model MYCOMFORT BASE, having the following main features:

- Room air temperature reading and adjustment
- Water temperature reading (water sensor as an optional)
- Manual and automatic adjustment of fan speed
- Manual and automatic switching of heating and cooling mode depending on the water temperature within the heat exchanger or on the room temperature, with a neutral zone that can be selected in the range from 2° to 5°C.

The controller is equipped with a large display (3") to show and set all the functions of the unit.

Using the installation kit available, myComfort can be mounted on the unit



### LED503 - Recess wall-mounted microprocessor control

The proposed microprocessor control panels for Galletti indoor units is completed by the LED503 command with LED display that is designed for recess wall mounting.



#### CONTROLLER

The control software developed by the Galletti Software Dept., features:

- Manual fan speed selection;
- Automatic selection of fan speed according to the difference between the set temperature and the room air temperature;
- Manual selection of heating/cooling operating mode;
- Automatic selection of heating/cooling operating mode;
- Control of 1 or 2 ON/OFF valves;
- Control of additional heating element;
- On board timer function to detect the actual ambient temperature;
- Reading of air ambient temperature, set point, fan speed and mode selection on the LED display.

### MYCOMFORT MEDIUM - GALLETTI wall-mounted microprocessor control, model MYCOMFORT MEDIUM, having the following main features :

- Room air temperature reading and adjustment
- Reading and adjustment of room humidity
- Water temperature reading (water sensor as an optional)
- Manual and automatic adjustment of fan speed
- Manual and automatic switching of heating and cooling mode depending on the water temperature within the heat exchanger or on the room temperature, with a neutral zone that can be selected in the range from 2° to 5°C.
- Serial port for Bus connection

The controller is equipped with a large display (3") to show and set all the functions of the unit.

Using the installation kit available, myComfort can be mounted on the unit



### SW - Water temperature sensor for microprocessor controls model MYCOMFORT and LED503

Connected directly to the microprocessor control panel, this probe measures the water temperature inside the heat exchanger.

If the temperature registered is lower than 17°C the unit works in cooling mode and the temperature range of the control panel will be referred to the cooling mode (19 / 31°C); if the temperature registered is higher than 37°C the unit works in heating mode and the temperature range of the control panel will be referred to the heating mode (14 / 26°C).

If the temperature registered is between 17°C e 37°C the control panel will disable the unit operation.



### MYCOMFORT LARGE- GALLETTI wall-mounted microprocessor control, model MYCOMFORT LARGE, having the following main features :

- Room air temperature reading and adjustment
- Reading and adjustment of room humidity
- Water temperature reading (water sensor as an optional)
- Manual and automatic adjustment of fan speed
- Manual and automatic switching of heating and cooling mode depending on the water temperature within the heat exchanger or on the room temperature, with a neutral zone that can be selected in the range from 2° to 5°C.
- Clock and hourly timer-programmed operation
- 2 Analogue outputs for controlling modulating devices 0-10V
- 2 Digital outputs for controlling (On/Off) external devices (no-voltage contacts)
- Serial port for Bus connection

The controller is equipped with a large display (3") to show and set all the functions of the unit.

Using the installation kit available, myComfort can be mounted on the unit



### SU - Humidity sensor for on-board microprocessor controls model MYCOMFORT MEDIUM and MYCOMFORT LARGE.





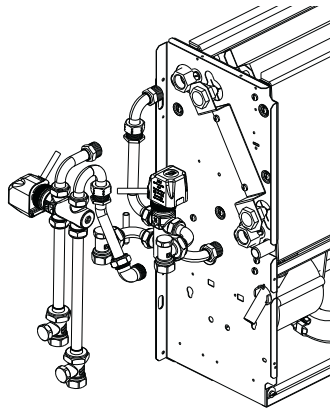
## 8 ACCESSORIES

### VK3 Motorised ON-OFF 3-way valve complete with hydraulic kit

The option is made of:

- 3 way / 4 ports valve with incorporated by-pass, made of brass, with maximum operation pressure 16 bar.
- Electrothermal actuator with ON/OFF action (total opening period 4 min.), power supply 230 V.
- Hydraulic connections kit for the connection of the valve onto the heat exchanger, complete with 2 holders for the balancing and the interception of the fan coil unit.

The VK kit is available in various versions for all the FLAT units both for the standard and for the additional DF heat exchangers.

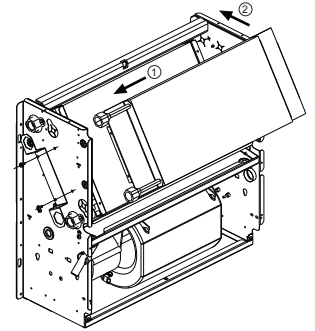


### DF Additional heat exchanger for 4-pipe system (hot water circuit)

Additional heat exchanger made of copper pipe and aluminium fins, is used for 4 pipe systems and has to be connected to the heating circuit.

The heat exchanger is complete with air purge valve placed on the hydraulic connections.

The mounting kit is complete with a fixing bracket designed to avoid the rotation of the manifolds during the connection of the heat exchanger to the unit.

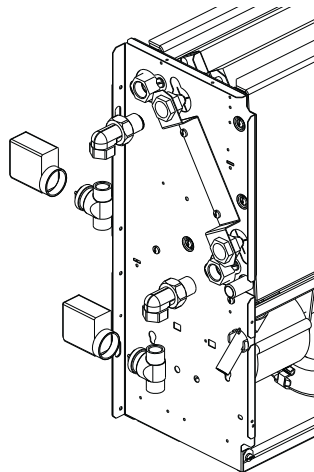


### VK2 Motorised ON-OFF 2-way valve complete with hydraulic kit

The option is made of:

- 2 way / 2 ports valve with incorporated by-pass, made of brass, with maximum operation pressure 16 bar.
- Electrothermal actuator with ON/OFF action (total opening period 4 min.), power supply 230 V.
- Hydraulic connections kit for the connection of the valve onto the heat exchanger.

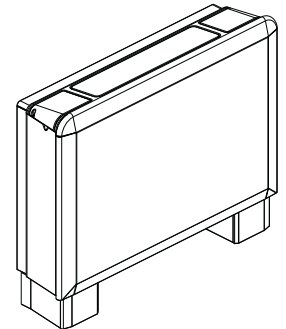
The VK kit is available in various versions for all the FLAT units both for the standard and for the additional DF heat exchangers.



### Z Pair of covering feet for F L models

The Z covering feet, designed for the installation on the FLAT L, are supplied in pairs and include both the supports for fixing them to the bearing structure and the external coverings for fixing them to the cover cabinet. They are to be used either for covering the hydraulic pipes (coming from the floor) or when it is not possible to mount the fan coil unit on the wall.

The height of the covering feet is 100 mm.



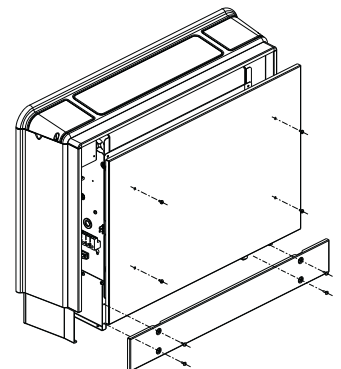
### PV Rear painted panel for vertical installation fan coil units

This accessory is designed for installation on unit on the rear of glass walls.

The kit includes an upper and a lower rear panels.

The fan coil unit with the PV rear panel cannot be fixed on the wall.

FLAT L unit must be equipped with Z supporting and covering feet



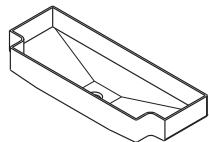
### GIVK Valve steam insulation shell

The GIVK valve steam insulation shell it avoids forming itself of condensates in to valve.



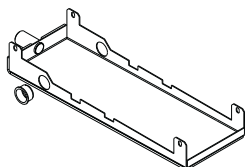
### BV Auxiliary drip tray for vertical-mounting units

This accessory is designed to collect any condensate that may form on the shut-off and balancing valve.



### BH Auxiliary drip tray for horizontal-mounting units

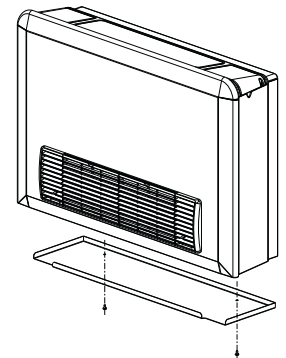
This accessory is designed to collect any condensate that may form on the shut-off and balancing valve.



### PH Rear painted panel for horizontal installation fan coil units with cabinet FLAT U

The rear painted panel PH is designed for the FLAT U only for ceiling installation, with the back side of the unit at sight in order to cover the technical spaces (hydraulic and electric).

The fan coil with the PH rear panel can operate only in heating mode.



## 9 INSTALLATION SUGGESTIONS

Fan coil units should be installed in a position where they heat and cool the room evenly, on walls or ceilings that can bear their weight.

Fit any accessories on the standard unit before installing it.

Read the relevant technical sheets for the installation and use of the accessories.

Keep free space around the fan coil to allow proper operation and ordinary and extraordinary maintenance (see the “overall dimensions” chapter)

Install the remote control panel, if any, in a position that can easily be reached by the user to set the functions and that is suitable for the proper detection of the temperature, if provided.

Therefore avoid :

- positions directly exposed to sunlight;
- positions exposed to hot or cold draughts;
- obstacles preventing the proper temperature detection.

If the system is shut down during the winter months, drain off the water from the system to prevent damage due to freezing; if antifreeze solutions are used, check the freezing point using the following table

Glycol percentage in weight	Freezing temperature (°C)	Capacity correction factor	Pressure drop correction factor
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

## 10 MAINTENANCE

FLAT fan coils do not require special maintenance: it is enough to clean the air filter periodically.

The motor does not need maintenance as it is fitted with self-lubricating bearings.

Replace the air filter once a year, using original spare parts ; the fan coil model can be seen on the ID plate on the internal side-panel.

Refer to the “installation, use and maintenance” manual supplied with the product for all cleaning and maintenance operations.





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