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Jolly Top

Fan coil with centrifugal fan



CHARACTERISTICS

FERROLI... TOP NOTCH products, always

JOLLY TOP I Series

New series of fan coil units with **centrifugal fan with** high efficiency DC brushless motor. Characterised by a maximum depth of 200 mm in the cased models and a particularly attractive aesthetic line, they are intended for residential heating and air conditioning applications. Available in 5 sizes with cooling capacities from **1.50 to 5.60 kW** and air flow rates from **255 to 1190 m³/h**. In the standard version they are proposed with a single 3-row coil to which can be combined as an accessory, in the case of 4-pipe systems, an additional 1-row coil. Available in the two versions, **VM** with casing and **VN** without shell for recessed applications. The units can be installed in both vertical and horizontal positions.

AVAILABLE VERSIONS

The range of centrifugal fan coil units includes two versions; each of them is available in different capacities.

VM - Fan coil unit with suction casing from below

Composed of a sheet metal casing, a supply grille with doors to access the control, if required, in thermoplastic material and a regenerable e air filter, placed on a metal frame housed on guides cut out in the lower part of the frame.

JOLLY TOP 3V Series

New series of fan coil units with **centrifugal fan with 3-speed AC motor**. Characterised by a maximum depth of 200 mm in the cased models and a particularly attractive aesthetic line, they are intended for residential heating and air conditioning applications. Available in 5 sizes with cooling capacities from **1.65 to 6.00 kW** and air flow rates from **255 to 1300 m³/h**. In the standard version they are proposed with a single 3-row coil to which can be combined as an accessory, in the case of 4-pipe systems, an additional 1-row coil.

Available in the two versions, **VM** with casing and **VN** without shell for recessed applications. The units can be installed in both vertical and horizontal positions.

VN - Fan coil unit without casing for recessed applications

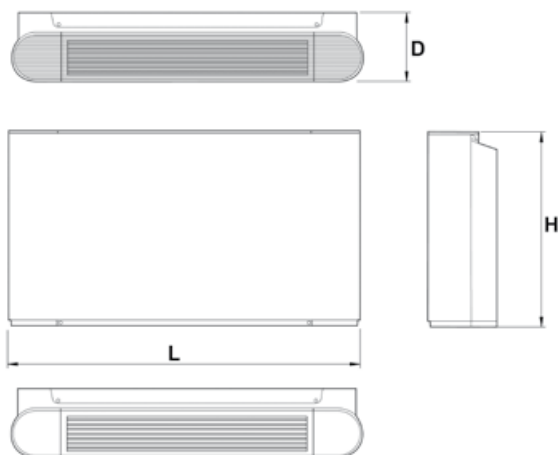
Without cover casing with regenerable air filter, placed on a metal frame housed on guides cut out in the lower part of the frame.





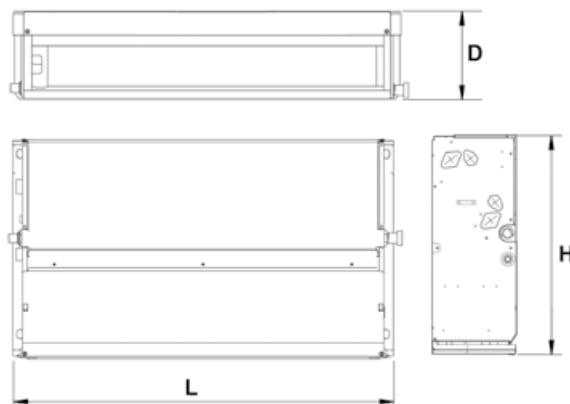
DIMENSIONS

VERSION VM



Mod.	150	250	350	500	700
L (mm)	790	1020	1240	1360	
H (mm)			495		
D (mm)			200		

VERSION VN



Mod.	150	250	350	500	700
L (mm)	637	867	1087	1207	
H (mm)			455		
D (mm)			200		

CONSTRUCTION FEATURES

Unit specifications

BEARING STRUCTURE

It is made of galvanized sheet metal of adequate thickness. There are slots at the rear to fix the unit. For models without a cover casing, there is a front mounted fan unit closing panel.

HEAT EXCHANGE COIL

3-row copper tube coil with aluminium fins blocked by mechanical expansion of the tubes. The manifolds in the upper part of the coil are equipped with air vents, while the lower part has a water drain tap*.

** The default hydraulic connection for the coil is on the LEFT. However IT IS POSSIBLE TO turn the coil and modify it to the RIGHT (see Installation Manual).*

CONDENSATE DRIP TRAY

Made of thermoplastic material to avoid corrosion it allows the machine to be installed in either vertical or horizontal positions. In particular, in the horizontal installation, its shape makes it possible to collect the drops of condensate that form on the collectors during cold operation. The drain hole is made directly from the condensate drip tray and allows it to be removed during cold operation. It is present on both sides of the machine to facilitate the rotation of the coil.

FAN MOTOR (for version I)

The electric motor is a DC brushless type with continuous speed regulation at high efficiency and is directly coupled to the fans and

cushioned by elastic supports.

FAN MOTOR (for 3V version)

The electric motor, protected from possible overloads, has three speeds with running capacitor always on, directly coupled to the fans and cushioned by elastic supports.

CENTRIFUGAL FAN

The fan unit consists of double inlet centrifugal fans with blades developed in length to obtain high flow rate at low speed.

AIR FILTER

Easily removable and regenerable by simply washing with water.

COVER CASING (VM only)

Made of steel sheet part painted with epoxy powder to ensure high resistance to corrosion and part in anti-UV thermoplastic material to ensure resistance to ultraviolet rays. The air diffusion grilles and the door to access the control panel, both made of anti-UV thermoplastic material are inserted in the upper part.

HYDRAULIC CONNECTIONS



The connections, located on the left side, are of 3/4" gas female type. It is possible to rotate the coil, which is supplied as standard with left side connections, by moving the hydraulic connections to the right side.



AVAILABLE ACCESSORIES

The unit is equipped with a wide range of accessories designed for different purposes: Installation - Hydraulic - Ambient control. The tables below describe the possible combinations.





JOLLY TOP 3V

CONTROL ACCESSORIES							
MODEL		DESCRIPTION	150	250	350	500	700
REM1		Switch for remote wall installation Comes with: - Selector for Off / Summer / Winter - Selector for Min / Med / Max fan speed	•	•	•	•	•
CM FC 3V		On-board unit switches They allow to: 1. Turn the unit on or off by selecting Hot-Cold mode 2. Select the fan speed	•	•	•	•	•
TES FC 3V		Thermostat with display for on-board installation (Includes water temperature control probe) Allows to: 1. Turn the unit on or off 2. Choose the hot-cold operating mode 3. Display the room temperature and set the setpoint 4. Select the fan speed 5. Set a timed on or off 6. Setting an ECO feature 7. Connect the unit to the modbus network for management via BMS 8. Obtain a "chiller call" or a "boiler call" via 1A/230 Vac clean contact	•	•	•	•	•
TERN-N		Advanced thermostat for remote wall installation Comes with: - Selector for Off/Summer/Winter/Auto function - Selector for Min/Med/Max/Auto fan speed - Knob to set the required temperature Note: The selected temperature refers to a value indicated on the knob and not to an offset in relation to a predetermined value. For the wall-hung version: - yellow LED: on when the thermostat is powered - green LED: on when the cooling function is on - red LED: on when the heating function is on	•	•	•	•	•
TC		Consent thermostat (only for switch CMR and CM)	•	•	•	•	•
MP		Wall-hung master control By means of the remote terminal, which can be installed on the wall and connected with three wires to the power module, it is possible to set all the operating parameters of the units. The display shows the room temperature (via an air probe integrated in the terminal) and the set-point, and features icons for indicating the state (on/off), operating mode (heating/cooling/auto), fan speed (1/2/3/auto). Through the 4 keys, it is therefore possible to change the state, the operating mode, the set-point, and the fan speed. The display also shows any operating errors. The terminal is used to control a single fan coil while, through a serial connection, it acts as a master terminal and is able to manage a zone of fan coils (maximum 16).	•	•	•	•	•
3V		Power Module Module to be installed on each unit, it is able to activate the three fan speeds as well as any hot and cold valves. Through a micro-switch, it is able to manage different system configurations, 2 or 4 pipes or solutions with electric resistance integration. It manages heating and cooling and accepts presence status inputs of the place to be air-conditioned. It receives the settings directly from Master controller or from a serial connection with other units belonging to a single group of terminals with Master Slave setting.	•	•	•	•	•




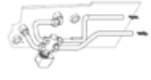



AVAILABLE ACCESSORIES

JOLLY TOP I

CONTROL ACCESSORIES							
MODEL		DESCRIPTION	150	250	350	500	700
TE / TER		Thermostat with display for on board unit or remote wall-hung installation. Allows to: 1. Turn the unit on or off 2. Choose Hot-Cool-Airing-Dehumidification mode of operation 3. Display the room temperature and set the setpoint 4. Select the fan speed	•	•	•	•	•
502-503		Wall adapter for boxes Adapter kit for wall installation of the TE/TER thermostat in case you want to use it on a recessed box mod. 503 (fixing centre distance 83.5 mm)	•	•	•	•	•
GC01		Central unit module - Allows to connect in serial network up to 16 fan coils that will be controlled as a single unit with a single TE/TER thermostat.	•	•	•	•	•
GCM09		Wall-hung centralized control It allows to connect up to 64 fan coils in a serial network and therefore allows, in unit or singularly for all connected fan coils, to: 1. Turn the units on or off 2. Choose the Hot-Cold mode of operation 3. Display the room temperature and set the setpoint 4. Select the fan speed 5. Weekly schedule	•	•	•	•	•

JOLLY TOP Common accessories for installation and hydraulic connections

MODEL		DESCRIPTION	150	250	350	500	700
FCPW		Support feet in case the unit rests on the floor	•	•	•	•	•
1R FC150 COIL		Auxiliary 1-row coil	•				
1R FC250 COIL				•			
1R FC350-500 COIL					•	•	
1R FC700 COIL							•
FC 3R COIL		3-way valve kit 3-way main coil	•	•	•	•	•
FC 1R COIL		3-way valve kit auxiliary 1-row coil	•	•	•	•	•
FC		Condensate drip tray for the installation of the 3-way valve auxiliary kit	•	•	•	•	•

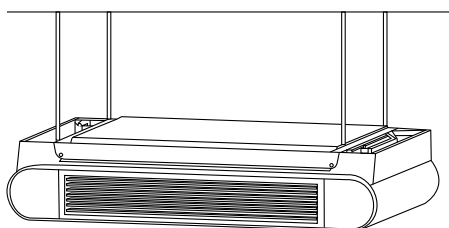
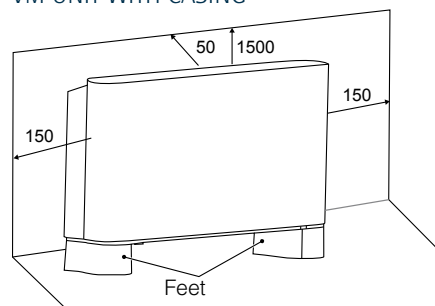


INSTALLATION EXAMPLES / TECHNICAL DATA

These new units are characterized by an elegant aesthetic design and multiple insertion possibilities in different types of installations.

The cased models can be wall-hung or recessed (raised or supported by feet), or suspended horizontally from the ceiling. The models without casing are particularly suitable for vanishing solutions in recessed or in false ceilings.

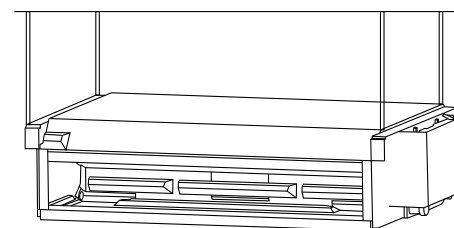
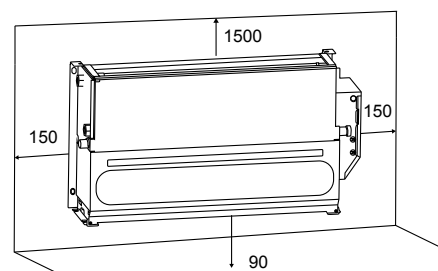
VM UNIT WITH CASING



JOLLY TOP I			150	250	350	500	700
Power supply		V-ph-Hz	230-1-50				
WATER: IN 7° - OUT 12°C - ROOM AIR: 27°C D.B 19°C W.B.			MAIN COIL				
Total cooling capacity	max/med/min	kW	1.50/1.06/0.92	2.35/1.94/1.19	3.50/2.89/2.22	4.30/3.48/2.71	5.60/4.47/3.14
Sensible cooling capacity	max/med/min	kW	1.14/0.77/0.66	1.79/1.44/0.86	2.65/2.14/1.57	3.25/2.56/1.91	4.62/3.6/2.43
Water flow rate	max/med/min	l/h	258/182/158	404/334/205	602/497/382	740/599/466	963/769/540
Water side pressure drops	max/med/min	kPa	13.94/8.21/6.16	13.33/9.98/4.59	34.08/24.63/15.39	54.22/36.22/22.78	50.67/33.38/17.73
WATER: IN C° - OUT °C - ROOM AIR: 20°C			MAIN COIL				
Heat output 45 - 40°C	max/med/min	kW	1.57/1.07/0.92	2.60/2.11/1.34	3.80/3.10/2.35	4.70/3.70/2.81	6.00/4.77/3.36
Heat output 70 - 60°C	max/med/min	kW	3.18/2.18/1.89	5.26/4.28/2.71	7.68/6.3/4.74	9.47/7.48/5.75	12.18/9.69/6.81
Water flow rate 45 - 40°C	max/med/min	l/h	270/184/158	447/363/230	654/533/404	808/636/483	1032/820/578
Water flow rate 70 - 60°C	max/med/min	l/h	270/190/160	450/370/230	660/540/410	820/650/500	1050/830/590
Water side pressure drops 45 - 40°C	max/med/min	kPa	15/8/6	14/10/5	35/24/15	54/37/22	55/38/19
Water side pressure drops 70 - 60°C	max/med/min	kPa	8.62/4.5/3.51	10.28/7.18/3.26	26.48/18.64/11.34	38.23/25.3/15.9	30.5/20.35/10.98
WATER: IN 70° - OUT 60°C - AMBIENT AIR: 20°C			AUXILIARY COIL				
Auxiliary coil heat output	max/med/min	kW	1.82/1.61/1.27	2.46/1.91/1.32	3.78/3.3/2.63	4.4/3.75/3.15	5.87/5.22/4.19
Auxiliary coil water flow rate	max/med/min	l/h	120/110/80	200/150/100	250/210/170	290/250/200	390/340/260
Water side pressure drops auxiliary coil	max/med min	kPa	12.54/10.25 6.89	29.06/19.07 10.13	61.88/49.07 32.61	80.05/61.91 44.87	145.93/118.24 79.31
GENERAL DATA							
Air flow rate	max/med/min	m³/h	255/170/150	400/315/190	595/470/340	790/580/410	1190/855/505
Air flow with main coil only for static pressure available 0/12/30 Pa	max	m³/h	333/280/146	489/392/32	683/570/261	893/812/656	1350/1258/1091
	med	m³/h	276/210/43	345/128/24	538/367/31	666/552/237	1029/899/630
	min	m³/h	192/77/24	232/19/19	397/197/25	475/258/28	677/451/31
Air flow rates with main and auxiliary coils for static pressure available 0/12/30 Pa	max	m³/h	318/264/131	465/373/47	641/527/258	845/764/606	1198/1112/949
	med	m³/h	265/198/31	327/164/25	508/339/31	631/516/229	897/774/554
	min	m³/h	186/76/24	222/20/20	357/95/24	452/251/228	574/386/32
Absorbed power	max/med/min	W	15/9/ 8	17/12/7	26/17/10	50/25/14	96/44/17
Maximum current consumption	max	A	0.18	0.20	0.26	0.49	0.85
Sound power	max/med/min	dB(A)	47/36/34	43/37/29	52/44/36	59/51/43	64/56/45
Sound pressure (measured at 1 m distance in reverberation chamber)	max/med/min	dB(A)	34/24/21	29/24/18	38/32/23	46/38/30	50/42/31
Motor		type	DC brushless				
No. of fans (centrifugal)		No.	1	2	2	2	3
Maximum operating pressure		bar	16				
Main 3R coil water content		l	0.46	0.68	0.90	0.90	1.02
Auxiliary 1R coil water content		l	0.15	0.23	0.30	0.30	0.34
Main 3R coil connections	F	"	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Auxiliary 1R coil connections	F	"	1/2" G	1/2" G	1/2" G	1/2" G	1/2" G
Condensate discharge connections		mm	18.5				
Gross/net weight VM version		kg	23.5/18	27.5/21.5	32.5/25.5	32.5/25.5	36/28.5
Gross/net weight VN version		kg	19.5/14	22.5/16.5	26.5/19.5	26.5/19.5	29.5/22



VN RECESSED UNIT



JOLLY TOP 3V			150	250	350	500	700
Power supply		V-ph-Hz	230-1-50				
WATER: IN 7° - OUT 12°C - ROOM AIR: 27°C D.B 19°C W.B.			MAIN COIL				
Total cooling capacity	max/med/min	kW	1.65/1.22/1.09	2.65/2.02/1.4	3.85/3.19/2.46	4.65/3.8/2.92	6/5.03/3.71
Sensible cooling capacity	max/med/min	kW	1.25/0.88/0.78	2.05/1.5/1.02	2.91/2.36/1.77	3.58/2.85/2.09	4.83/3.99/2.85
Water flow rate	max/med/min	l/h	284/210/187	456/347/241	662/549/423	800/654/502	1032/865/638
Water side pressure drops	max/med/min	kPa	15.75/9.33/7.37	18.03/11.18/5.48	38.23/27.11/16.96	56.85/40.02/25.31	53.79/36.96/21.16
WATER: IN C° - OUT °C - ROOM AIR: 20°C			MAIN COIL				
Heat output 45 - 40°C	max/med/min	kW	1.85/1.29/1.13	3.05/2.24/1.52	4.1/3.3/2.48	5.2/3.95/3	6.15/5.1/3.8
Heat output 70 - 60°C	max/med/min	kW	3.71/2.61/2.29	6.19/4.46/3.02	8.25/6.62/5.05	10.5/7.98/6.01	12.41/10.31/7.73
Water flow rate 45 - 40°C	max/med/min	l/h	318/222/194	525/385/261	705/568/427	894/679/516	1058/877/654
Water flow rate 70 - 60°C	max/med/min	l/h	320/230/200	530/380/260	710/570/430	900/690/520	1070/890/670
Water side pressure drops 45 - 40°C	max/med/min	kPa	15.13/8.22/6.64	17.56/10.28/5.43	35.52/24.83/14.91	56.68/37.31/23.25	57.85/38.53/21.10
Water side pressure drops 70 - 60°C	max/med/min	kPa	11.29/6.14/4.88	13.65/7.7/3.92	29.97/20.31/12.63	45.68/28.3/17.13	31.51/22.79/13.68
WATER: IN 70° - OUT 60°C - AMBIENT AIR: 20°C			AUXILIARY COIL				
Auxiliary coil heat output	max/med/min	kW	2.19/1.83/1.53	2.62/1.82/1.28	3.87/3.32/2.62	4.13/3.97/3.33	5.93/5.4/4.42
Auxiliary coil water flow rate	max/med/min	l/h	140/120/100	210/150/100	250/210/170	350/260/210	400/350/270
Water side pressure drops auxiliary coil	max/med min	kPa	18.21/13.28 10.08	32.98/17.39 9.57	65.01/49.97 32.61	88.72/69.43 50.34	149.12/126.82 88.25
GENERAL DATA							
Air flow rate	max/med/min	m³/h	255/165/142	400/273/180	595/447/319	790/560/392	1190/855/555
Air flow with main coil only for static pressure available 0/12/30 Pa	max	m³/h	358/331/286	446/413/352	636/595/513	852/808/731	1265/1190/1045
	med	m³/h	269/243/201	307/267/177	472/421/337	806/767/690	909/884/820
	min	m³/h	186/152/111	203/136/58	337/266/181	621/582/500	638/615/567
Air flow rates with main and auxiliary coils for static pressure available 0/12/30 Pa	max	m³/h	377/352/309	447/414/355	635/593/494	837/790/710	1208/1132/987
	med	m³/h	287/264/215	307/266/185	477/423/327	796/752/676	911/881/781
	min	m³/h	210 /176/130	203/139/60	342/268/180	612/573/478	623/591/549
Absorbed power	max/med/min	W	35/17/14	47/26/14	51/32/19	91/54/34	123/98/68
Current consumption	max/med/min	A	0.15/0.07/0.06	0.20/0.11/0.06	0.22/0.14/0.08	0.40/ 0.23/0.15	0.53/0.43/0.30
Sound power	max/med/min	dB(A)	47/35/34	46/37/31	52/44/36	59/51/43	64/56/45
Sound pressure (measured at 1 m distance in reverberation chamber)	max/med/min	dB(A)	35/24/21	34/24/18	39/32/23	48/39/31	50/43/33
Motor		type	AC 3 speed				
No. of fans (centrifugal)		No.	1	2	2	2	3
Maximum operating pressure		bar	16				
Main 3R coil water content		l	0.46	0.68	0.9	0.9	1.02
Auxiliary 1R coil water content		l	0.15	0.23	0.3	0.3	0.34
Main 3R coil connections	F	"	3/4" G	3/4" G	3/4" G	3/4" G	3/4" G
Auxiliary 1R coil connections	F	"	1/2" G	1/2" G	1/2" G	1/2" G	1/2" G
Condensate discharge connections		mm	18.5				
Gross/net weight VM version		kg	21.8/16.3	26/20	31/24	31/24	34.8/27.3
Gross/net weight VN version		kg	15.9/11.6	19.4/13.9	24/17.3	24.6/17.9	27.3/20.5



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