



YFCN-ECM Fan Coils Units

YFCN-ECM Fan Coil Units

THE FAN COIL UNIT WITH EC BRUSHLESS ELECTRONIC MOTOR AND INVERTER BOARD

YFCN fan coils combine a beautiful design with very interesting performances in terms of sound level and energy consumption.

ECM models are available in five different models, for wall and ceiling installation, with casing and concealed. All Johnson Controls fan coils take part to the Eurovent program of fan coil performance certification.

The **ECM** range makes use of the excellent experience gained with the Cassette fan coils with inverter board, first in the world in production since 2009, and which have had great success on all markets.

The innovative brushless and sensorless type synchronous electronic motor with permanent magnets, is controlled by an inverter board. The board is mounted on the unit, closed to the motor, without the need to be cooled down by the air flow.

The air flow rate can be varied in continuous by means of a 1-10 V signal generated by JCI controls or by independent control systems. The continuous air flow control improves the acoustic comfort and allows a more punctual reply to the variation of the thermal loads and a greater stability of the requested ambient temperature.

The extreme efficiency, also at low speed, makes possible a great reduction in electric consumption (less than 50% in comparison to YFCN range motor) with absorption values under normal operating conditions that **do not exceed 16 Watt for YFCN-ECM models**.

The excellent values of the YFCN range in terms of sound levels have been maintained in all working conditions, without any resonance phenomenon at any frequency.

The full compliance with the Electromagnetic Compatibility Directive and with the other severe Standards in force is certified by an independent institute.

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**PLASTIC OUTLET GRID
IN ONE SINGLE PIECE:
EXTRAORDINARY DESIGN
AND STRENGTH**



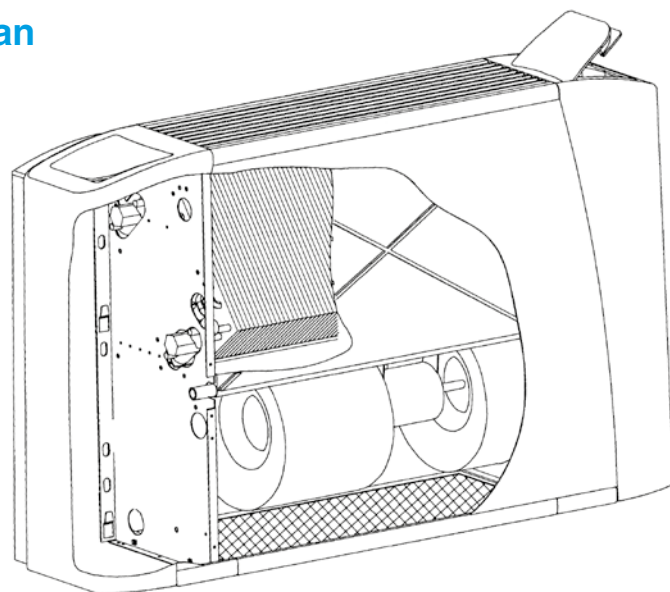
Johnson Controls take part to the Eurovent program of fan coil performance certification. The official figures are published in the web site www.eurovent-certification.com. The tested performances are:

- | | |
|--|---|
| <ul style="list-style-type: none"> • Cooling total emission at the following conditions: <ul style="list-style-type: none"> - Water temperature + 7 °C E.W.T. + 12 °C L.W.T. - Entering air temperature + 27 °C dry bulb + 19 °C wet bulb • Heating emission (2 pipe units) at the following conditions: <ul style="list-style-type: none"> - Water temperature + 45 °C E.W.T. + 40 °C L.W.T. - Entering air temperature + 20 °C | <ul style="list-style-type: none"> • Cooling sensible emission at the following conditions: <ul style="list-style-type: none"> - Water temperature + 7 °C E.W.T. + 12 °C L.W.T. - Entering air temperature + 27 °C dry bulb + 19 °C wet bulb • Heating emission (4 pipe units) at the following conditions: <ul style="list-style-type: none"> - Water temperature + 65 °C E.W.T. + 55 °C L.W.T. - Entering air temperature + 20 °C |
| • Fan absorption | • Water pressure drop |
| | • Sound power |

YFCN-ECM version with centrifugal fan

Range includes 5 air flow rates (from 115 to 1395 m³/h) and 5 versions (for wall and ceiling installation, with casing and concealed), each equipped with 3 or 4 row coil and with the possibility to add a 1 or 2 row coil for 4 pipe systems.

This is the series with the lowest electrical consumption in relation to both heat performance as well as working static performance and is particularly suited to satisfying the strictest energy consumption needs of class A buildings, and to ensuring excellent acoustic comfort.



Construction

Outer casing

Made of strong synthetic lateral corners and from galvanized and pre-painted front steel panel. The plastic top grid has fixed louvres and is reversible in order to distribute the air in two different directions.

Standard colours:

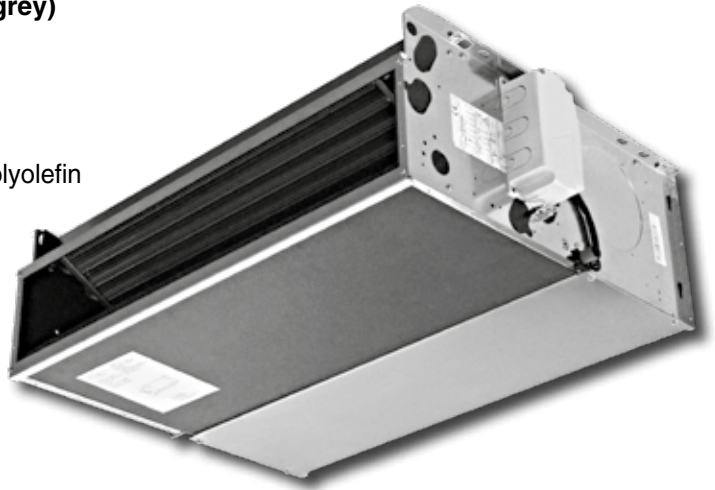
- Lateral corners and top grid: **Pantone 427 C (light grey)**
- Frontal panel: **RAL 9003 (white)**
- Other colours on request.

Inner casing

Made from 1 mm galvanized steel insulated with 3 mm polyolefin (PO) foam (class M1).

Filter

Polypropylene cellular fabric regenerating filter. The filter frame of galvanized steel is inserted into special plastic sliding guides fastened to the internal structure for easy insertion and removal of the filter. Filter presence is highlighted by a plastic front cover featuring the same colour as the top grid.



Fan assembly

The fans have aluminium or plastic blades directly keyed on the motor with double aspiration and they are dynamically and statically balanced during manufacture in order to have an extremely quiet operation.

Electronic motor

Three phase permanent magnet brushless electronic motor that is controlled with reconstructed current according to a BLAC sinusoidal wave. The inverter board that controls the motor operation is powered by 230 Volt, single-phase and, with a switching system, it generates a three-phase frequency modulated, wave form power supply. The electric power supply required for the machine is therefore single-phase with voltage of 230-240 V and frequency of 50-60 Hz.

Coil

It is manufactured from drawn copper tube and the aluminium fins are mechanically bonded onto the tube by an expansion process. The coil has two 1/2 inch BSP internal connections and 1/8 inch BSP air vent and drain. The coil is not suitable for use in corrosive atmosphere or in environments where aluminium may be subject to corrosion.

The connections are on the left hand side facing the unit. On request we can deliver the unit with the connections on the right end side. This operation can also be easily carried out on site during installation.

Condensate collection tray

Made of plastic (ABS UL94 HB) with a "L-shaped" plastic fitted on the inner casing; in the HC, VCB and CD model the tray is insulated with 3 mm polyolefin (PO) foam (class M1). The outside diameter of the condensate discharge pipe is 15 mm.

Accessories and Controls

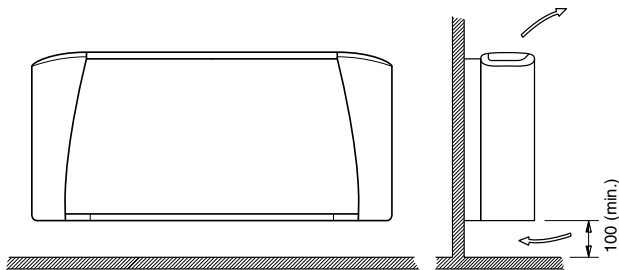
See page 26 and 45.



Models

VC

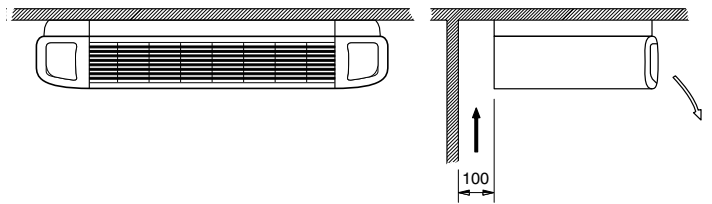
Vertical Casing - Wall Installation



VC

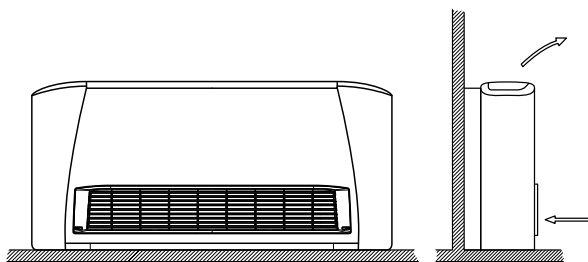
Vertical Casing - Ceiling Installation

NOTE: the VC model can also be installed horizontally leaving behind a 100 mm gap for air intake.



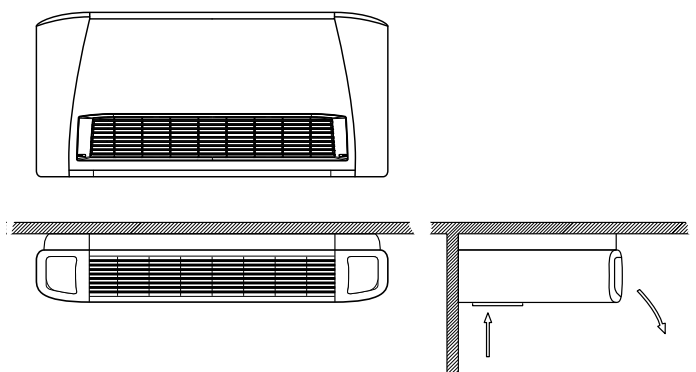
VCB

Vertical Casing - Floor Installation



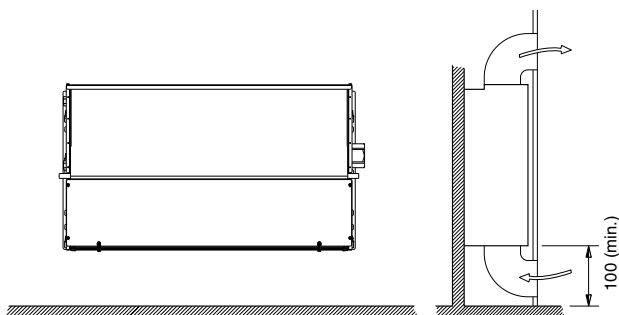
HC

Horizontal Casing



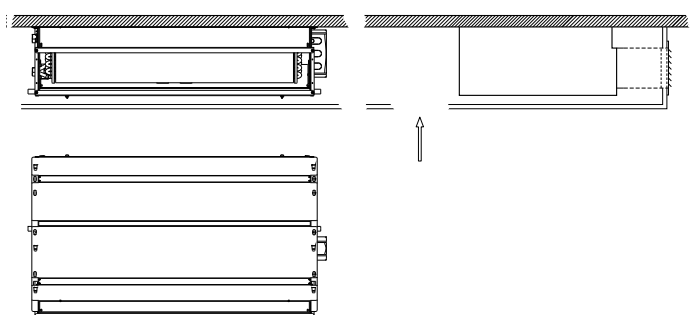
CD

Vertical Concealed



CD

Horizontal Concealed



Coil connections on the left

Dimensions (mm):

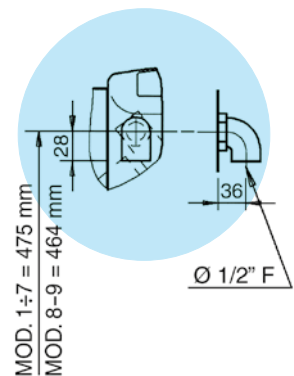
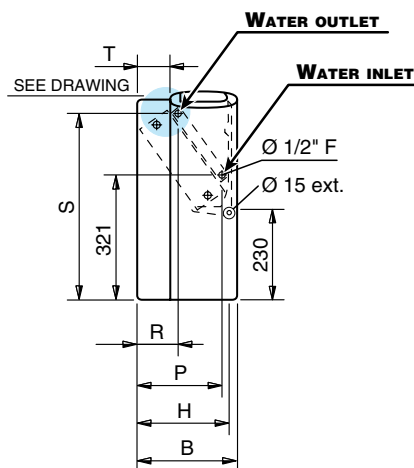
- Front View: Total width A, mounting hole spacing 630, mounting hole diameter 530, bottom flange width 100.
- Side View: Total height B, mounting hole diameter 170.
- Top View: Total length C, mounting hole spacing 158, mounting hole diameter 133, mounting hole offset 125, mounting hole diameter 100, mounting hole offset 71, mounting hole diameter 44, mounting hole offset 55.

Feet (optional)

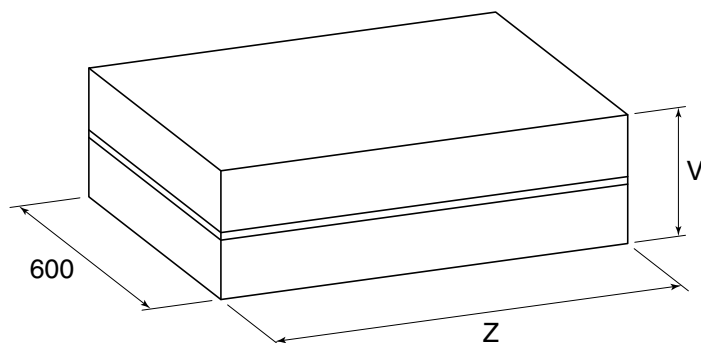
Technical drawings of the 1000 Series LED light fixture showing front, side, and top views with dimensions:

- Front View:** Shows the overall width (A) and height (530). A mounting hole is indicated on the left side.
- Side View:** Shows the depth (B) and a specific depth dimension of 170.
- Top View:** Shows the overall width (A) and the internal LED array layout. The array is divided into three horizontal sections with dimensions 71, 44, and 125. The total width of the array area is 158, and the total width of the fixture is 158. The mounting bracket width is 55.

Technical drawing of a vertical water meter assembly. The drawing shows a cylindrical body with a top flange and a bottom flange. The top flange has a diameter of $\varnothing 1/2''$ F. The bottom flange has a diameter of $\varnothing 15$ ext. The body has a height of 230. The drawing includes labels for 'WATER OUTLET' and 'WATER INLET'. Dimensions are indicated by arrows and letters: T (top flange thickness), O (overall height), Z (height to the bottom flange), 37 (bottom flange thickness), M (distance from bottom flange to the center of the water inlet), H (height of the water inlet), and B (width of the base). The drawing is a side view showing the internal components and the flow direction.



PACKAGING



Dimension (mm)

MODEL	2	4	6	7	9
A	770	985	1200	1415	1415
B	225	225	225	225	255
C	454	669	884	1099	1099
H	205	205	205	205	235
M	145	145	145	145	170
N	260	260	260	260	270
O	460	460	460	460	450
P	185	185	185	185	210
R	105	105	105	105	110
S	475	475	475	475	465
T	55	55	55	55	85
V	260	260	260	260	290
Z	820	1035	1250	1465	1465

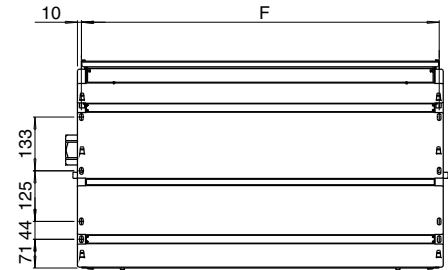
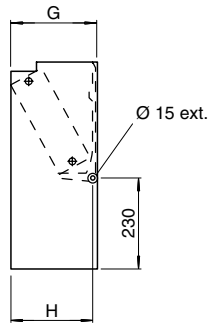
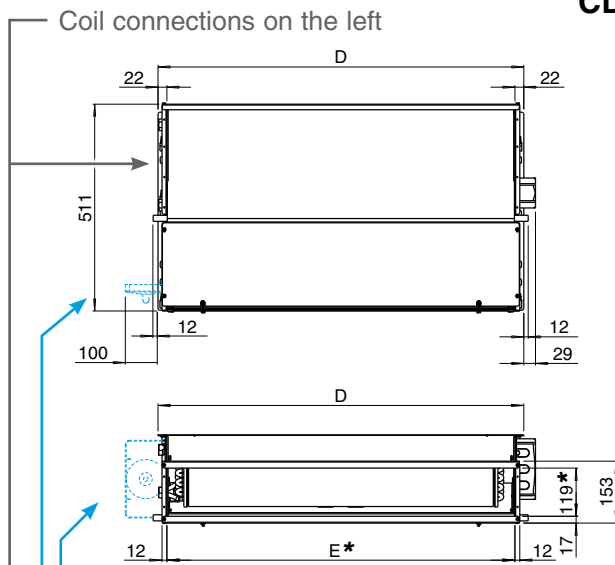
Weight (kg)

		Weight with packaging					Weight without packaging				
MODEL		2	4	6	7	9	2	4	6	7	9
Rows	3	17,2	22,5	27,7	32,1	35,9	15,4	20,2	24,9	28,8	32,2
	3+1	18,0	23,7	29,2	33,9	37,7	16,2	21,4	26,4	30,6	34,0
	3+2	18,6	24,4	30,1	35,0	38,8	16,8	22,1	27,3	31,7	35,1
	4	18,0	23,5	29,0	33,6	37,4	16,2	21,2	26,2	30,3	33,7
	4+1	18,8	24,7	30,5	35,4	39,2	17,0	22,4	27,7	32,1	35,5

Water content (litres)

MODEL		2	4	6	7	9
Rows	3	0,6	0,9	1,6	1,7	1,9
	4	0,8	1,3	2,2	2,4	2,8
	+1	0,2	0,3	0,5	0,5	0,6
	+2	0,4	0,6	1,0	1,0	1,2

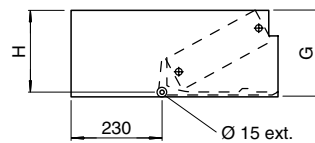
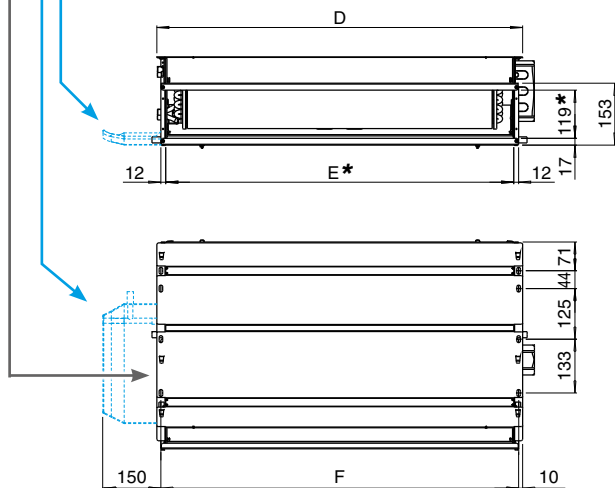
CD Vertical Installation



* Supply frame dimension = $E \times 119 \text{ mm}$

Auxiliary condensate tray (optional)

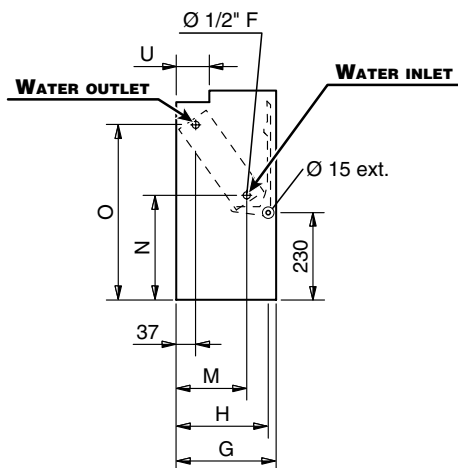
CD Horizontal Installation



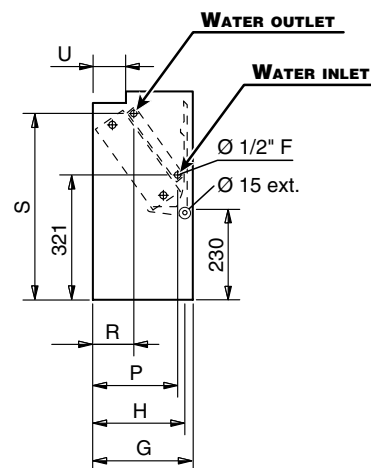
* Supply frame dimension = $E \times 119 \text{ mm}$

COIL CONNECTIONS

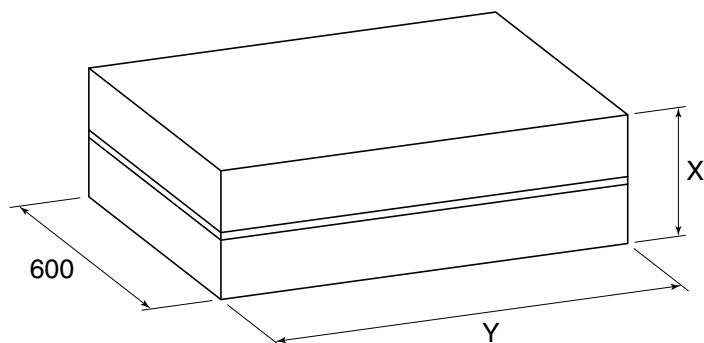
3 or 4 row coils



Heating additional coil (1 or 2 rows)



PACKAGING



Dimension (mm)

MODEL	2	4	6	7	9
D	474	689	904	1119	1119
E	430	645	860	1075	1075
F	454	669	884	1099	1099
G	218	218	218	218	248
H	205	205	205	205	235
M	145	145	145	145	170
N	260	260	260	260	270
O	460	460	460	460	450
P	185	185	185	185	210
R	105	105	105	105	110
S	475	475	475	475	465
U	65	65	65	65	95
X	260	260	260	260	290
Y	820	820	1035	1250	1250

Weight (kg)

		Weight with packaging					Weight without packaging				
MODEL		2	4	6	7	9	2	4	6	7	9
Rows	3	13,6	18,1	22,8	27,0	30,4	11,8	16,3	20,5	24,2	27,3
	3+1	14,4	19,3	24,3	28,8	32,2	12,6	17,5	22,0	26,0	29,1
	3+2	15,0	20,0	25,2	29,9	33,3	13,2	18,2	22,9	27,1	30,2
	4	14,4	19,1	24,1	28,5	31,9	12,6	17,3	21,8	25,7	28,8
	4+1	15,2	20,3	25,6	30,3	33,7	13,4	18,5	23,3	27,5	30,6

Water content (litres)

MODEL		2	4	6	7	9
Rows	3	0,6	0,9	1,6	1,7	1,9
	4	0,8	1,3	2,2	2,4	2,8
	+1	0,2	0,3	0,5	0,5	0,6
	+2	0,4	0,6	1,0	1,0	1,2

YFCN-ECM UNITS WITH 3 ROW COIL

2 pipe units.

The following standard rating conditions are used:

COOLING

Entering air temperature +27 °C d.b. +19 °C w.b.
Water temperature + 7 °C E.W.T. +12 °C L.W.T.

HEATING

Entering air temperature +20 °C
Water temperature +45 °C E.W.T. +40 °C L.W.T.

MODEL		YFCN-ECM 230					YFCN-ECM 430					YFCN-ECM 630				
Inverter power		1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)
Speed		MIN		MED		MAX	MIN		MED		MAX	MIN		MED		MAX
Air flow	m ³ /h	120	170	220	270	330	210	280	350	430	515	305	395	495	610	735
Cooling total emission (E)	kW	0,73	0,97	1,18	1,37	1,59	1,41	1,80	2,18	2,57	2,95	1,96	2,44	2,93	3,44	3,96
Cooling sensible emission (E)	kW	0,55	0,74	0,92	1,09	1,28	1,03	1,33	1,64	1,95	2,26	1,46	1,83	2,22	2,64	3,08
Heating (E)	kW	0,77	1,04	1,29	1,52	1,80	1,42	1,84	2,26	2,69	3,14	1,96	2,46	3,00	3,55	4,14
Dp Cooling (E)	kPa	2,2	3,6	5,1	6,7	8,6	7,9	12,0	17,0	22,6	28,9	5,5	8,0	11,1	14,8	19,0
Dp Heating (E)	kPa	1,6	2,7	3,9	5,2	7,0	6,6	10,4	14,9	20,4	26,7	4,5	6,8	9,6	12,9	17,0
Fan (E)	W	7,0	9,0	11,0	15,0	21,0	6,0	9,0	12,0	17,0	25,0	7,0	10,0	15,0	22,0	32,0
Sound power (E)	Lw dB(A)	30	36	41	47	51	30	36	42	47	51	33	38	44	49	54
Sound pressure (*)	Lp dB(A)	21	27	32	38	42	21	27	33	38	42	24	29	35	40	45

MODEL		YFCN-ECM 730					YFCN-ECM 930				
Inverter power		1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)
Speed		MIN		MED		MAX	MIN		MED		MAX
Air flow	m ³ /h	400	500	610	755	890	605	785	945	1175	1395
Cooling total emission (E)	kW	2,60	3,13	3,68	4,36	4,94	3,45	4,22	4,82	5,60	6,26
Cooling sensible emission (E)	kW	1,92	2,33	2,77	3,32	3,80	2,63	3,28	3,79	4,49	5,10
Heating (E)	kW	2,56	3,13	3,72	4,43	5,08	3,74	4,65	5,41	6,46	7,38
Dp Cooling (E)	kPa	10,5	14,5	19,4	26,1	32,6	8,9	12,7	16,1	21,1	25,9
Dp Heating (E)	kPa	8,5	12,1	16,4	22,2	28,3	7,3	10,7	14,0	19,1	24,2
Fan (E)	W	9,0	13,0	18,5	28,5	41,0	16,0	25,0	41,0	65,0	99,0
Sound power (E)	Lw dB(A)	37	43	48	53	57	44	50	55	60	64
Sound pressure (*)	Lp dB(A)	28	34	39	44	48	35	41	46	51	55

(E) = Eurovent certified performance.

(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

YFCN-ECM UNITS WITH 4 ROW COIL

2 pipe units.

The following standard rating conditions are used:

COOLING

Entering air temperature +27 °C d.b. +19 °C w.b.
Water temperature + 7 °C E.W.T. +12 °C L.W.T.

HEATING

Entering air temperature +20 °C
Water temperature +45 °C E.W.T. +40 °C L.W.T.

MODEL		YFCN-ECM 240					YFCN-ECM 440					YFCN-ECM 640				
Inverter power		1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)
Speed		MIN		MED		MAX	MIN		MED		MAX	MIN		MED		MAX
Air flow	m³/h	115	160	210	260	325	200	265	340	415	505	290	375	475	590	720
Cooling total emission (E)	kW	0,77	1,06	1,32	1,57	1,86	1,43	1,83	2,27	2,71	3,17	2,05	2,59	3,19	3,84	4,51
Cooling sensible emission (E)	kW	0,56	0,78	0,98	1,19	1,42	1,03	1,34	1,67	2,02	2,39	1,48	1,89	2,34	2,84	3,38
Heating (E)	kW	0,78	1,08	1,37	1,65	1,98	1,42	1,83	2,30	2,77	3,32	2,02	2,59	3,23	3,93	4,68
Dp Cooling (E)	kPa	3,2	5,5	8,0	11,0	14,8	4,0	6,1	8,9	12,3	16,1	8,2	12,4	17,8	24,8	33,0
Dp Heating (E)	kPa	2,6	4,7	7,1	9,9	13,6	3,1	4,9	7,3	10,2	13,7	6,6	10,3	15,1	21,4	29,1
Fan (E)	W	7,0	8,8	11,0	14,6	21,0	6,0	9,0	12,0	17,0	25,0	7,0	10,0	15,0	22,0	32,0
Sound power (E)	Lw dB(A)	30	36	41	47	51	30	36	42	47	51	33	38	44	49	54
Sound pressure (*)	Lp dB(A)	21	27	32	38	42	21	27	33	38	42	24	29	35	40	45

MODEL		YFCN-ECM 740					YFCN-ECM 940				
Inverter power		1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)
Speed		MIN		MED		MAX	MIN		MED		MAX
Air flow	m³/h	380	475	585	735	875	575	755	910	1145	1365
Cooling total emission (E)	kW	2,61	3,20	3,82	4,61	5,30	3,59	4,49	5,21	6,18	7,04
Cooling sensible emission (E)	kW	1,90	2,34	2,82	3,44	3,99	2,69	3,40	3,99	4,81	5,53
Heating (E)	kW	2,57	3,17	3,84	4,66	5,43	3,76	4,81	5,63	6,84	7,93
Dp Cooling (E)	kPa	7,3	10,5	14,3	20,0	25,6	6,3	9,3	12,1	16,4	20,8
Dp Heating (E)	kPa	5,9	8,6	12,0	16,9	22,0	5,6	8,7	11,4	16,1	20,9
Fan (E)	W	9,0	13,0	18,5	28,5	41,0	16,0	25,0	41,0	65,0	99,0
Sound power (E)	Lw dB(A)	37	43	48	53	57	44	50	55	60	64
Sound pressure (*)	Lp dB(A)	28	34	39	44	48	35	41	46	51	55

(E) = Eurovent certified performance.

(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

YFCN-ECM UNITS WITH 1 ROW ADDITIONAL COIL

4 pipe units.

The following standard rating conditions are used:

COOLING

Entering air temperature +27 °C d.b. +19 °C w.b.
 Water temperature + 7 °C E.W.T. +12 °C L.W.T.

HEATING

Entering air temperature +20 °C
 Water temperature +65 °C E.W.T. +55 °C L.W.T.

MODEL		YFCN-ECM 230+1					YFCN-ECM 430+1					YFCN-ECM 630+1				
Inverter power		1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)
Speed		MIN		MED		MAX	MIN		MED		MAX	MIN		MED		MAX
Air flow	m ³ /h	120	170	220	270	330	210	280	350	430	515	305	395	495	610	735
Cooling total emission (E)	kW	0,73	0,97	1,18	1,37	1,59	1,41	1,80	2,18	2,57	2,95	1,96	2,44	2,93	3,44	3,96
Cooling sensible emission (E)	kW	0,55	0,74	0,92	1,09	1,28	1,03	1,33	1,64	1,95	2,26	1,46	1,83	2,22	2,64	3,08
Heating (E)	kW	0,71	0,91	1,08	1,24	1,43	1,29	1,57	1,85	2,13	2,41	1,76	2,10	2,45	2,83	3,22
Dp Cooling (E)	kPa	2,3	3,8	5,4	7,2	9,4	7,3	11,5	16,0	21,6	28,1	6,4	9,6	13,2	17,7	23,3
Dp Heating (E)	kPa	1,0	1,6	2,1	2,7	3,5	3,6	5,2	6,9	8,8	11,0	1,2	1,7	2,2	2,9	3,6
Fan (E)	W	7,0	9,0	11,0	14,5	21,0	6,0	9,0	12,0	17,0	25,0	7,0	10,0	15,0	22,0	32,0
Sound power (E)	Lw dB(A)	30	36	41	47	51	30	36	42	47	51	33	38	44	49	54
Sound pressure (*)	Lp dB(A)	21	27	32	38	42	21	27	33	38	42	24	29	35	40	45

MODEL		YFCN-ECM 730+1					YFCN-ECM 930+1				
Inverter power		1 (E)	3	5 (E)	7,5	10 (E)	1 (E)	3	5 (E)	7,5	10 (E)
Speed		MIN		MED		MAX	MIN		MED		MAX
Air flow	m ³ /h	400	500	610	755	890	605	785	945	1175	1395
Cooling total emission (E)	kW	2,60	3,13	3,68	4,36	4,94	3,45	4,22	4,82	5,60	6,26
Cooling sensible emission (E)	kW	1,92	2,33	2,77	3,32	3,80	2,63	3,28	3,79	4,49	5,10
Heating (E)	kW	2,33	2,72	3,12	3,63	4,06	2,99	3,58	4,05	4,69	5,24
Dp Cooling (E)	kPa	9,7	13,8	18,4	24,8	31,8	8,9	12,7	16,1	21,1	25,9
Dp Heating (E)	kPa	2,4	3,1	4,0	5,2	6,3	3,7	5,1	6,3	8,2	9,9
Fan (E)	W	9,0	13,0	18,5	28,5	41,0	16,0	25,0	41,0	65,0	99,0
Sound power (E)	Lw dB(A)	37	43	48	53	57	44	50	55	60	64
Sound pressure (*)	Lp dB(A)	28	34	39	44	48	35	41	46	51	55

(E) = Eurovent certified performance.

(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

Highest water inlet temperature..... + 85 °C

Lowest water inlet temperature..... + 6 °C

for entering water temperatures below + 6 °C, contact “YORK” technical department

Highest working pressure..... 1600 kPa (16 bars)

Note: For HC model the maximum installation height is 2,8 m.

On heating it must be paid attention to rooms where the floor temperature is particularly low (for example less than 6 °C).

In this situation the floor can cool the lower layer of air to a level that can stop the uniform diffusion of the hot air coming from the unit.

Water flow limits for 3 row coil (l/h)

MODEL	YFCN-ECM 230	YFCN-ECM 430	YFCN-ECM 630	YFCN-ECM 730	YFCN-ECM 930
Lowest	100	100	150	150	200
Highest	500	750	1000	1500	2000

Water flow limits for 4 row coil (l/h)

MODEL	YFCN-ECM 240	YFCN-ECM 440	YFCN-ECM 640	YFCN-ECM 740	YFCN-ECM 940
Lowest	100	150	150	200	300
Highest	750	1000	1500	2000	2250

Water flow limits for 1 row additional coil (l/h)

MODEL	YFCN-ECM 2	YFCN-ECM 4	YFCN-ECM 6	YFCN-ECM 7	YFCN-ECM 9
Lowest	50	50	100	100	100
Highest	250	350	500	650	750

Water flow limits for 2 row additional coil (l/h)

MODEL	YFCN-ECM 2	YFCN-ECM 4	YFCN-ECM 6	YFCN-ECM 7	YFCN-ECM 9
Lowest	50	100	100	100	100
Highest	250	350	500	650	750

Motor electrical data (max. absorption)

MODEL		YFCN-ECM 2	YFCN-ECM 4	YFCN-ECM 6	YFCN-ECM 7	YFCN-ECM 9
230/1	W	21,0	25,0	32,0	41,0	99,0
50 Hz	A	0,18	0,22	0,28	0,34	0,81

Cooling emission of 3 row coil

Entering air temperature: 27 °C - R.H.: 50%

MODEL ECM	Vdc	Qv m³/h	WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
			Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa	Pc kW	Ps kW	Qw l/h	Dp(c) kPa
YFCN 230	10	330	1,72	1,27	299	7,9	1,53	1,19	266	6,4	1,12	1,04	196	3,7	0,90	0,90	159	2,5
	7,5	270	1,49	1,08	258	6,1	1,32	1,02	230	4,9	0,98	0,88	171	2,9	0,77	0,77	135	1,9
	5	220	1,27	0,91	220	4,6	1,13	0,86	196	3,7	0,84	0,74	147	2,2	0,66	0,66	115	1,4
	3	170	1,04	0,74	181	3,3	0,93	0,69	162	2,7	0,70	0,60	121	1,6	0,53	0,53	93	1,0
	1	120	0,79	0,55	137	2,0	0,71	0,52	123	1,6	0,53	0,45	93	1,0	0,39	0,39	69	0,6
YFCN 430	10	515	3,17	2,25	550	32,9	2,84	2,11	493	27,0	2,14	1,84	373	16,3	1,62	1,62	283	9,9
	7,5	430	2,76	1,94	478	25,8	2,48	1,82	429	21,2	1,88	1,59	326	12,8	1,40	1,40	243	7,6
	5	350	2,35	1,63	406	19,3	2,11	1,53	365	15,9	1,60	1,33	278	9,7	1,18	1,18	204	5,6
	3	280	1,93	1,33	334	13,7	1,74	1,25	300	11,3	1,33	1,08	229	6,9	0,96	0,96	167	3,9
	1	210	1,52	1,03	262	8,9	1,37	0,97	236	7,4	1,05	0,84	181	4,6	0,74	0,74	129	2,5
YFCN 630	10	735	4,26	3,07	738	21,6	3,81	2,89	661	17,6	2,86	2,52	498	10,6	2,21	2,21	386	6,7
	7,5	610	3,70	2,63	641	16,8	3,32	2,48	574	13,8	2,50	2,16	434	8,3	1,90	1,90	331	5,1
	5	495	3,15	2,21	544	12,6	2,82	2,08	488	10,3	2,14	1,81	370	6,3	1,59	1,59	277	3,7
	3	395	2,62	1,83	453	9,1	2,36	1,71	407	7,5	1,79	1,49	310	4,6	1,32	1,32	229	2,7
	1	305	2,12	1,46	365	6,3	1,90	1,37	329	5,2	1,45	1,19	251	3,2	1,05	1,05	182	1,8
YFCN 730	10	890	5,31	3,79	921	37,1	4,04	3,56	702	30,4	3,60	3,11	627	18,5	2,74	2,74	478	11,3
	7,5	755	4,69	3,31	812	29,7	4,21	3,11	729	24,4	3,20	2,71	555	14,9	2,39	2,39	416	8,8
	5	610	3,96	2,76	684	22,0	3,56	2,60	615	18,1	2,71	2,26	470	11,1	1,99	1,99	346	6,4
	3	500	3,37	2,33	581	16,5	3,03	2,19	523	13,6	2,32	1,90	400	8,4	1,69	1,69	292	4,8
	1	400	2,79	1,92	482	11,9	2,52	1,80	434	9,8	1,93	1,57	333	6,1	1,38	1,38	240	3,4
YFCN 930	10	1395	6,76	5,06	1180	30,3	6,01	4,76	1051	24,7	4,43	4,17	780	14,6	3,63	3,63	642	10,4
	7,5	1175	6,05	4,46	1051	24,7	5,39	4,20	938	20,2	3,99	3,67	698	12,0	3,21	3,21	563	8,2
	5	945	5,19	3,77	900	18,8	4,64	3,55	804	15,4	3,46	3,10	602	9,3	2,71	2,71	474	6,1
	3	785	4,55	3,27	787	14,8	4,07	3,07	704	12,2	3,05	2,68	529	7,4	2,35	2,35	409	4,6
	1	605	3,72	2,63	642	10,4	3,33	2,47	575	8,6	2,51	2,15	434	5,2	1,90	1,90	330	3,1

LEGEND

WT = Water temperature
Pc = Cooling total emission
Ps = Cooling sensible emission
Qw = Water flow
Dp(c) = Water pressure drop
Vdc = Inverter Power
Qv = Air flow

Cooling emission of 3 row coil

Entering air temperature: 26 °C - R.H.: 50%

			WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
MODEL ECM	Vdc	Qv	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
		m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
YFCN 230	10	330	1,52	1,19	265	6,4	1,33	1,12	232	5,0	0,99	0,99	173	3,0	0,82	0,82	145	2,1
	7,5	270	1,32	1,02	229	4,9	1,15	0,95	201	3,9	0,84	0,84	147	2,2	0,70	0,70	123	1,6
	5	220	1,13	0,86	195	3,7	0,99	0,80	172	3,0	0,69	0,69	121	1,6	0,60	0,60	105	1,2
	3	170	0,93	0,70	161	2,7	0,82	0,65	142	2,1	0,57	0,56	100	1,1	0,48	0,48	85	0,8
	1	120	0,70	0,52	122	1,6	0,62	0,48	108	1,3	0,44	0,41	77	0,7	0,36	0,36	63	0,5
YFCN 430	10	515	2,82	2,12	490	26,9	2,49	1,98	433	21,5	1,78	1,70	311	11,8	1,48	1,48	259	8,5
	7,5	430	2,46	1,83	426	21,1	2,18	1,71	377	16,9	1,57	1,47	272	9,4	1,28	1,28	223	6,5
	5	350	2,10	1,54	362	15,8	1,86	1,44	323	12,7	1,34	1,24	233	7,1	1,08	1,08	187	4,8
	3	280	1,73	1,25	298	11,2	1,53	1,17	265	9,0	1,11	1,01	193	5,1	0,88	0,88	153	3,3
	1	210	1,36	0,97	234	7,3	1,20	0,91	208	5,9	0,88	0,78	153	3,4	0,68	0,68	118	2,1
YFCN 630	10	735	3,79	2,89	658	17,6	3,34	2,71	580	14,0	2,37	2,33	413	7,6	2,02	2,02	353	5,7
	7,5	610	3,30	2,48	571	13,7	2,91	2,32	504	11,0	2,08	2,00	361	6,0	1,74	1,74	302	4,3
	5	495	2,81	2,08	485	10,3	2,48	1,95	429	8,2	1,78	1,68	309	4,6	1,46	1,46	253	3,2
	3	395	2,34	1,72	404	7,5	2,07	1,61	358	6,0	1,50	1,38	260	3,4	1,21	1,21	209	2,3
	1	305	1,89	1,37	326	5,1	1,68	1,28	289	4,1	1,22	1,10	211	2,3	0,96	0,96	167	1,5
YFCN 730	10	890	4,74	3,57	822	30,4	4,19	3,34	727	24,3	3,00	2,88	523	13,4	2,50	2,50	437	9,7
	7,5	755	4,19	3,12	725	24,3	3,70	2,92	642	19,5	2,67	2,51	464	10,9	2,18	2,18	381	7,6
	5	610	3,54	2,60	611	18,0	3,13	2,53	542	14,5	2,27	2,10	394	8,2	1,82	1,82	317	5,5
	3	500	3,01	2,19	520	13,6	2,67	2,05	462	10,9	1,95	1,77	337	6,2	1,54	1,54	268	4,1
	1	400	2,50	1,80	431	9,8	2,22	1,69	383	7,9	1,63	1,45	281	4,5	1,27	1,27	220	2,9
YFCN 930	10	1395	6,00	4,77	1048	24,5	5,25	4,47	920	19,5	3,96	3,96	699	12,0	3,30	3,30	585	8,8
	7,5	1175	5,37	4,21	934	20,0	4,71	3,94	821	16,0	3,50	3,50	613	9,6	2,92	2,92	513	7,0
	5	945	4,61	3,56	801	15,3	4,06	3,33	705	12,2	2,96	2,96	515	7,0	2,47	2,47	432	5,1
	3	785	4,05	3,08	700	12,1	3,56	2,88	617	9,7	2,52	2,48	438	5,3	2,15	2,15	373	3,9
	1	605	3,31	2,48	572	8,5	2,92	2,32	505	6,8	2,08	1,99	361	3,7	1,74	1,74	302	2,6

LEGEND

WT = Water temperature
Pc = Cooling total emission
Ps = Cooling sensible emission
Qw = Water flow
Dp(c) = Water pressure drop
Vdc = Inverter Power
Qv = Air flow

Cooling emission of 3 row coil

Entering air temperature: 25 °C - R.H.: 50%

MODEL ECM	Vdc	WT: 7/12 °C					WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
		Qv	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
		m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
YFCN 230	10	330	1,33	1,12	232	5,0	1,13	1,04	198	3,8	0,90	0,90	159	2,5	0,74	0,74	131	1,8
	7,5	270	1,15	0,96	200	3,9	0,99	0,89	172	3,0	0,77	0,78	135	1,9	0,63	0,63	111	1,3
	5	220	0,99	0,80	171	3,0	0,85	0,75	147	2,3	0,66	0,66	115	1,4	0,54	0,54	94	1,0
	3	170	0,81	0,65	141	2,1	0,70	0,60	122	1,6	0,53	0,53	93	1,0	0,44	0,44	77	0,7
	1	120	0,62	0,48	108	1,3	0,53	0,45	93	1,0	0,39	0,39	69	0,6	0,32	0,32	57	0,4
YFCN 430	10	515	2,49	1,99	432	21,6	2,15	1,85	375	16,7	1,63	1,63	284	10,1	1,34	1,34	235	7,1
	7,5	430	2,17	1,71	376	16,9	1,88	1,59	327	13,1	1,40	1,40	244	7,7	1,16	1,16	202	5,5
	5	350	1,85	1,44	320	12,7	1,61	1,34	278	9,9	1,18	1,18	205	5,7	0,97	0,97	170	4,0
	3	280	1,52	1,17	264	9,0	1,33	1,09	230	7,1	0,97	0,97	168	4,0	0,80	0,80	139	2,8
	1	210	1,20	0,91	207	5,9	1,05	0,84	181	4,6	0,75	0,74	130	2,5	0,62	0,62	108	1,8
YFCN 630	10	735	3,34	2,71	579	14,1	2,88	2,53	501	10,8	2,22	2,22	387	6,8	1,82	1,82	319	4,8
	7,5	610	2,90	2,33	503	11,0	2,51	2,17	436	8,5	1,90	1,91	331	5,2	1,57	1,57	274	3,6
	5	495	2,47	1,96	428	8,3	2,14	1,82	371	6,4	1,60	1,60	277	3,8	1,32	1,32	229	2,7
	3	395	2,07	1,61	357	6,0	1,80	1,50	310	4,7	1,33	1,33	230	2,7	1,10	1,10	190	1,9
	1	305	1,67	1,28	288	4,1	1,45	1,19	251	3,2	1,06	1,05	183	1,8	0,87	0,87	151	1,3
YFCN 730	10	890	4,18	3,35	726	24,4	3,63	3,12	631	18,9	2,74	2,74	479	11,5	2,26	2,26	396	8,1
	7,5	755	3,69	2,93	640	19,6	3,21	2,73	557	15,2	2,40	2,40	417	9,0	1,98	1,98	345	6,4
	5	610	3,12	2,44	541	14,5	2,72	2,27	471	11,3	2,00	2,00	347	6,5	1,65	1,65	287	4,6
	3	500	2,66	2,06	460	10,9	2,32	1,92	401	8,5	1,69	1,70	293	4,9	1,40	1,40	243	3,4
	1	400	2,21	1,69	382	7,9	1,93	1,57	334	6,2	1,33	1,39	230	3,4	1,15	1,15	200	2,4
YFCN 930	10	1395	5,25	4,48	920	19,5	4,49	4,18	789	14,9	3,63	3,63	642	10,4	2,97	2,97	528	7,4
	7,5	1175	4,70	3,95	820	15,9	4,04	3,68	706	12,2	3,21	3,22	563	8,2	2,63	2,63	464	5,8
	5	945	4,05	3,33	703	12,2	3,49	3,11	607	9,4	2,72	2,72	474	6,1	2,23	2,23	391	4,3
	3	785	3,56	2,89	616	9,6	3,07	2,69	532	7,5	2,36	2,36	409	4,7	1,94	1,94	337	3,2
	1	605	2,91	2,32	503	6,8	2,52	2,16	436	5,2	1,91	1,90	331	3,1	1,57	1,57	273	2,1

LEGEND

WT = Water temperature
 Pc = Cooling total emission
 Ps = Cooling sensible emission
 Qw = Water flow
 Dp(c) = Water pressure drop
 Vdc = Inverter Power
 Qv = Air flow

Cooling emission of 4 row coil

Entering air temperature: 27 °C - R.H.: 50%

			WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
MODEL ECM	Vdc	Qv	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
		m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
YFCN 240	10	325	2,00	1,42	348	16,9	1,79	1,33	312	13,8	1,35	1,16	235	8,3	1,02	1,02	179	5,0
	7,5	260	1,69	1,18	294	12,5	1,52	1,11	264	10,3	1,15	0,97	200	6,2	0,85	0,85	149	3,7
	5	210	1,42	0,98	245	9,1	1,27	0,92	220	7,5	0,96	0,80	168	4,6	0,71	0,71	123	2,6
	3	160	1,14	0,78	197	6,2	1,02	0,73	178	5,1	0,78	0,64	136	3,1	0,56	0,56	98	1,8
	1	115	0,84	0,57	145	3,6	0,75	0,53	131	3,0	0,58	0,46	100	1,9	0,41	0,41	71	1,0
YFCN 440	10	505	3,42	2,38	592	18,5	3,06	2,23	531	15,2	2,32	1,94	403	9,2	1,71	1,71	299	5,4
	7,5	415	2,92	2,02	506	14,0	2,63	1,89	454	11,5	2,00	1,64	346	7,0	1,45	1,45	253	4,0
	5	340	2,44	1,67	421	10,1	2,19	1,56	379	8,4	1,67	1,36	290	5,1	1,20	1,20	208	2,8
	3	265	1,97	1,34	340	7,0	1,77	1,25	307	5,8	1,36	1,09	235	3,6	0,96	0,96	167	1,9
	1	200	1,54	1,04	266	4,5	1,39	0,97	240	3,7	1,07	0,84	185	2,3	0,75	0,75	129	1,2
YFCN 640	10	720	4,85	3,36	839	37,4	4,36	3,16	755	30,9	3,32	2,75	577	19,0	2,43	2,43	423	10,8
	7,5	590	4,12	2,84	713	28,1	3,71	2,67	642	23,2	2,84	2,32	492	14,3	2,05	2,05	356	8,0
	5	475	3,42	2,33	590	20,2	3,08	2,19	533	16,7	2,37	1,91	409	10,4	1,69	1,69	293	5,7
	3	375	2,79	1,89	481	14,1	2,52	1,78	434	11,7	1,94	1,54	335	7,3	1,36	1,36	236	3,9
	1	290	2,20	1,48	379	9,2	1,99	1,39	343	7,7	1,54	1,21	265	4,8	1,07	1,07	184	2,5
YFCN 740	10	875	5,70	3,98	987	29,1	5,12	3,74	888	24,0	3,90	3,26	677	14,7	2,87	2,87	501	8,5
	7,5	735	4,95	3,43	857	22,7	4,46	3,23	771	18,7	3,40	2,81	590	11,5	2,47	2,47	431	6,5
	5	585	4,11	2,82	710	16,3	3,70	2,65	639	13,5	2,83	2,30	491	8,3	2,04	2,04	354	4,6
	3	475	3,43	2,34	593	11,9	3,10	2,20	535	9,8	2,38	1,91	412	6,1	1,69	1,69	293	3,3
	1	380	2,81	1,90	484	8,3	2,53	1,79	437	6,9	1,95	1,55	337	4,3	1,37	1,37	237	2,3
YFCN 940	10	1365	7,60	5,50	1324	23,7	6,77	5,17	1182	19,3	5,04	4,51	883	11,4	3,94	3,94	695	7,4
	7,5	1145	6,68	4,79	1160	18,8	5,96	4,50	1037	15,3	4,46	3,91	778	9,1	3,43	3,43	602	5,7
	5	910	5,61	3,97	972	13,8	5,02	3,73	871	11,3	3,77	3,24	656	6,8	2,85	2,85	497	4,1
	3	755	4,84	3,40	837	10,6	4,34	3,19	750	8,7	3,27	2,77	567	5,2	2,45	2,45	426	3,1
	1	575	3,87	2,69	669	7,1	3,48	2,52	601	5,9	2,64	2,19	456	3,6	1,93	1,93	335	2,0

LEGEND

WT = Water temperature
Pc = Cooling total emission
Ps = Cooling sensible emission
Qw = Water flow
Dp(c) = Water pressure drop
Vdc = Inverter Power
Qv = Air flow

Cooling emission of 4 row coil

Entering air temperature: 26 °C - R.H.: 50%

MODEL ECM	Vdc	WT: 7/12 °C					WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
		Qv	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
		m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
YFCN 240	10	325	1,78	1,33	310	13,8	1,57	1,25	273	11,0	1,12	1,07	195	6,0	0,93	0,93	163	4,3
	7,5	260	1,51	1,12	262	10,2	1,33	1,04	232	8,2	0,95	0,89	166	4,5	0,78	0,78	136	3,1
	5	210	1,26	0,92	219	7,5	1,12	0,86	194	6,0	0,81	0,74	140	3,3	0,65	0,65	113	2,3
	3	160	1,02	0,74	176	5,1	0,90	0,69	157	4,1	0,65	0,59	114	2,3	0,51	0,51	90	1,5
	1	115	0,75	0,53	130	3,0	0,66	0,50	115	2,4	0,49	0,43	85	1,4	0,37	0,37	65	0,9
YFCN 440	10	505	3,05	2,24	528	15,1	2,69	2,09	467	12,1	1,94	1,79	338	6,8	1,57	1,57	274	4,6
	7,5	415	2,61	1,90	452	11,5	2,31	1,77	400	9,2	1,67	1,52	291	5,2	1,33	1,33	232	3,4
	5	340	2,18	1,57	376	8,3	1,93	1,47	334	6,7	1,41	1,26	244	3,8	1,10	1,10	191	2,4
	3	265	1,76	1,26	304	5,7	1,56	1,17	271	4,6	1,14	1,01	198	2,6	0,88	0,88	153	1,7
	1	200	1,38	0,98	238	3,7	1,23	0,91	212	3,0	0,90	0,78	156	1,7	0,68	0,68	119	1,1
YFCN 640	10	720	4,33	3,17	750	30,8	3,84	2,96	666	24,7	2,79	2,55	486	14,0	2,22	2,22	388	9,3
	7,5	590	3,69	2,67	638	23,1	3,27	2,50	567	18,6	2,39	2,15	415	10,6	1,87	1,87	326	6,9
	5	475	3,06	2,20	529	16,6	2,72	2,06	470	13,4	2,00	1,77	346	7,7	1,55	1,55	268	4,9
	3	375	2,50	1,78	431	11,6	2,22	1,66	384	9,4	1,64	1,43	283	5,4	1,25	1,25	217	3,3
	1	290	1,97	1,40	340	7,6	1,76	1,30	304	6,2	1,30	1,12	225	3,6	0,98	0,98	169	2,2
YFCN 740	10	875	5,09	3,75	883	23,9	4,51	3,51	782	19,2	3,27	3,02	569	10,8	2,63	2,63	459	7,3
	7,5	735	4,43	3,23	766	18,6	3,93	3,02	680	15,0	2,86	2,60	497	8,5	2,26	2,26	394	5,6
	5	585	3,67	2,66	635	13,4	3,26	2,48	565	10,8	2,39	2,13	414	6,2	1,87	1,87	325	4,0
	3	475	3,08	2,21	531	9,8	2,74	2,06	473	7,9	2,01	1,77	348	4,5	1,55	1,55	269	2,8
	1	380	2,51	1,79	434	6,8	2,24	1,67	387	5,6	1,65	1,44	286	3,2	1,26	1,26	217	2,0
YFCN 940	10	1365	6,74	5,18	1177	19,3	5,92	4,85	1035	15,3	4,30	4,30	757	8,7	3,59	3,59	635	6,3
	7,5	1145	5,93	4,50	1031	15,3	5,22	4,21	908	12,1	3,67	3,62	643	6,5	3,13	3,13	549	4,9
	5	910	4,99	3,74	866	11,2	4,40	3,50	764	8,9	3,12	3,00	544	4,9	2,60	2,60	454	3,5
	3	755	4,31	3,98	745	8,6	3,80	2,99	659	6,9	2,72	2,56	472	3,8	2,24	2,24	390	2,7
	1	575	3,45	2,53	597	5,8	3,05	2,36	528	4,7	2,20	2,02	382	2,6	1,77	1,77	307	1,7

LEGEND

WT = Water temperature
 Pc = Cooling total emission
 Ps = Cooling sensible emission
 Qw = Water flow
 Dp(c) = Water pressure drop
 Vdc = Inverter Power
 Qv = Air flow

Cooling emission of 4 row coil

Entering air temperature: 25 °C - R.H.: 50%

			WT: 7/12 °C				WT: 8/13 °C				WT: 10/15 °C				WT: 12/17 °C			
MODEL ECM	Vdc	Qv	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)	Pc	Ps	Qw	Dp(c)
		m³/h	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa	kW	kW	l/h	kPa
YFCN 240	10	325	1,57	1,25	273	11,0	1,35	1,16	236	8,5	1,02	1,02	179	5,1	0,84	0,84	148	3,6
	7,5	260	1,33	1,04	231	8,2	1,15	0,97	200	6,3	0,85	0,85	149	3,7	0,70	0,70	123	2,6
	5	210	1,11	0,86	193	6,0	0,97	0,80	168	4,6	0,71	0,71	124	2,7	0,59	0,59	103	1,9
	3	160	0,90	0,69	156	4,1	0,78	0,64	136	3,2	0,56	0,56	99	1,8	0,47	0,47	82	1,3
	1	115	0,66	0,50	115	2,4	0,58	0,46	100	1,9	0,39	0,39	68	0,9	0,34	0,34	59	0,7
YFCN 440	10	505	2,68	2,10	466	12,1	2,33	1,95	405	9,4	1,72	1,72	300	5,5	1,41	1,42	246	3,9
	7,5	415	2,30	1,78	399	9,2	2,00	1,65	347	7,2	1,46	1,46	254	4,1	1,21	1,21	210	2,9
	5	340	1,92	1,47	333	6,7	1,68	1,37	290	5,2	1,21	1,21	209	2,9	1,00	1,00	174	2,1
	3	265	1,56	1,18	269	4,6	1,36	1,09	235	3,6	0,92	0,92	160	1,8	0,80	0,80	139	1,4
	1	200	1,22	0,92	211	3,0	1,07	0,85	185	2,4	0,73	0,71	127	1,2	0,62	0,62	108	0,9
YFCN 640	10	720	3,83	2,97	664	24,8	3,33	2,77	578	19,3	2,44	2,44	424	11,1	2,01	2,01	352	7,8
	7,5	590	3,26	2,51	565	18,6	2,84	2,33	493	14,6	2,05	2,05	357	8,1	1,70	1,70	296	5,8
	5	475	2,71	2,06	469	13,4	2,37	1,92	410	10,5	1,69	1,69	294	5,8	1,40	1,40	244	4,1
	3	375	2,21	1,67	382	9,4	1,94	1,55	335	7,4	1,33	1,31	230	3,8	1,13	1,14	196	2,8
	1	290	1,75	1,31	302	6,2	1,53	1,12	265	4,9	1,06	1,03	184	2,5	0,89	0,89	154	1,8
YFCN 740	10	875	4,50	3,52	780	19,2	3,91	3,27	679	15,0	2,88	2,88	502	8,7	2,38	2,38	416	6,1
	7,5	735	3,91	3,03	678	15,0	3,41	2,82	591	11,7	2,48	2,48	432	6,7	2,05	2,05	358	4,7
	5	585	3,25	2,49	562	10,8	2,84	2,32	491	8,5	2,05	2,05	356	4,7	1,70	1,70	295	3,4
	3	475	2,72	2,07	471	7,9	2,38	1,92	412	6,2	1,62	1,62	281	3,1	1,41	1,41	244	2,4
	1	380	2,23	1,68	385	5,5	1,95	1,56	337	4,4	1,34	1,32	232	2,2	1,14	1,14	198	1,7
YFCN 940	10	1365	5,91	4,86	1033	15,3	5,08	4,52	891	11,7	3,95	3,95	696	7,5	3,23	3,23	573	5,3
	7,5	1145	5,20	4,22	906	12,2	4,49	3,93	783	9,3	3,44	3,44	603	5,8	2,82	2,82	497	4,1
	5	910	4,39	3,50	762	9,0	3,79	3,26	659	6,9	2,86	2,86	498	4,2	2,35	2,35	411	2,9
	3	755	3,79	2,99	657	6,9	3,28	2,78	569	5,3	2,46	2,46	427	3,2	2,03	2,03	353	2,2
	1	575	3,04	2,37	526	4,7	2,64	2,20	457	3,6	1,94	1,94	336	2,1	1,60	1,60	278	1,5

LEGEND

WT = Water temperature
Pc = Cooling total emission
Ps = Cooling sensible emission
Qw = Water flow
Dp(c) = Water pressure drop
Vdc = Inverter Power
Qv = Air flow

Heating emission of 3 row coil

Entering air temperature: 20 °C

			WT: 70/60 °C			WT: 60/50 °C			WT: 50/40 °C			WT: 50/45 °C			WT: 45/40 °C		
MODEL ECM	Vdc	Qv	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)
		m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
YFCN 230	10	330	3,64	313	6,7	2,78	239	4,3	1,92	165	2,3	2,22	383	10	1,80	309	7,0
	7,5	270	3,09	265	5,0	2,36	203	3,2	1,63	140	1,7	1,89	324	7,5	1,52	262	5,2
	5	220	2,61	224	3,7	1,99	171	2,4	1,38	119	1,3	1,59	274	5,6	1,29	222	3,9
	3	170	2,10	181	2,5	1,61	138	1,6	1,12	96	0,9	1,28	221	3,8	1,04	179	2,7
	1	120	1,55	133	1,5	1,19	102	1,0	0,83	71	0,5	0,95	163	2,2	0,77	132	1,6
YFCN 430	10	515	6,33	544	25,2	4,86	418	16,3	3,39	291	8,9	3,87	665	37,9	3,14	540	26,7
	7,5	430	5,43	467	19,2	4,17	359	12,5	2,91	250	6,8	3,32	571	28,9	2,69	463	20,4
	5	350	4,55	391	14,1	3,50	301	9,1	2,44	210	5,0	2,78	478	21,2	2,26	388	14,9
	3	280	3,70	318	9,8	2,85	245	6,4	1,99	171	3,5	2,26	389	14,7	1,84	316	10,4
	1	210	2,85	245	6,2	2,20	189	4,0	1,54	133	2,2	1,74	300	9,3	1,42	244	6,6
YFCN 630	10	735	8,37	719	16	6,41	551	10,3	4,45	383	5,6	5,11	879	24,1	4,14	712	17
	7,5	610	7,17	616	12,2	5,50	473	7,9	3,82	329	4,3	4,38	753	18,4	3,55	610	12,9
	5	495	6,04	520	9,0	4,64	399	5,9	3,23	278	3,2	3,69	635	13,6	3,00	515	9,6
	3	395	4,97	427	6,4	3,82	328	4,2	2,66	229	2,3	3,03	522	9,6	2,46	424	6,8
	1	305	3,95	339	4,3	3,04	261	2,8	2,12	182	1,5	2,41	415	6,4	1,96	337	4,5
YFCN 730	10	890	10,25	882	26,7	7,87	677	17,3	5,49	472	9,5	6,26	1077	40,1	5,08	874	28,3
	7,5	755	8,94	769	21	6,87	591	13,6	4,79	412	7,5	5,46	939	31,5	4,43	762	22,2
	5	610	7,50	645	15,4	5,77	496	10	4,03	347	5,5	4,58	788	23,2	3,72	640	16,4
	3	500	6,30	542	11,3	4,85	417	7,4	3,93	338	4,1	3,85	662	17	3,13	538	12,1
	1	400	5,16	444	8,0	3,98	342	5,2	2,79	240	2,9	3,15	542	12	2,56	441	8,5
YFCN 930	10	1395	14,95	1285	22,9	11,42	982	14,7	7,90	679	8,0	9,13	1570	34,5	7,38	1270	24,2
	7,5	1175	13,06	1123	18,1	9,99	859	11,6	6,92	595	6,3	7,98	1372	27,2	6,46	1111	19,1
	5	945	10,94	941	13,2	8,38	720	8,5	5,81	500	4,6	6,68	1149	19,9	5,41	931	14
	3	785	9,40	809	10,1	7,21	620	6,5	5,00	430	3,6	5,74	988	15,3	4,66	801	10,7
	1	605	7,55	649	6,9	5,79	498	4,5	4,03	347	2,4	4,61	793	10,4	3,74	643	7,3

LEGEND

WT = Water temperature
Ph = Emission
Qw = Water flow
Dp(c) = Water pressure drop
Vdc = Inverter Power
Qv = Air flow

Heating emission of 4 row coil

Entering air temperature: 20 °C

			WT: 70/60 °C			WT: 60/50 °C			WT: 50/40 °C			WT: 50/45 °C			WT: 45/40 °C		
MODEL ECM	Vdc	Qv	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)
		m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
YFCN 240	10	325	4,01	344	12,9	3,07	264	8,3	2,14	184	4,5	2,45	421	19,4	1,98	341	13,6
	7,5	260	3,33	286	9,3	2,56	220	6,0	1,78	153	3,3	2,03	350	14	1,65	284	9,9
	5	210	2,75	237	6,7	2,12	182	4,3	1,48	127	2,4	1,68	289	10	1,37	235	7,1
	3	160	2,18	187	4,4	1,68	144	2,9	1,17	101	1,6	1,33	229	6,6	1,08	186	4,7
	1	115	1,57	135	2,5	1,21	104	1,6	0,85	73	0,9	0,96	165	3,7	0,78	134	2,6
YFCN 440	10	505	6,60	568	12,9	5,07	436	8,4	3,54	304	4,6	4,04	694	19,5	3,28	563	13,7
	7,5	415	5,57	479	9,6	4,29	369	6,2	3,00	258	3,4	3,41	586	14,5	2,77	476	10,2
	5	340	4,59	394	6,8	3,53	304	4,4	2,48	213	2,5	2,81	484	10,3	2,29	394	7,3
	3	265	3,67	316	4,6	2,83	243	3,0	1,99	171	1,7	2,24	386	6,9	1,83	314	4,9
	1	200	2,83	244	2,9	2,19	188	1,9	1,54	132	1,1	1,73	298	4,4	1,41	243	3,1
YFCN 640	10	720	9,43	811	27,4	7,26	624	17,8	5,08	437	9,8	5,76	991	41,2	4,68	805	29,1
	7,5	590	7,90	679	20,1	6,09	523	13,1	4,27	367	7,2	4,83	830	30,2	3,93	675	21,4
	5	475	6,48	557	14,2	5,00	430	9,2	3,51	302	5,1	3,96	681	21,3	3,23	555	15,1
	3	375	5,21	448	9,6	4,02	346	6,3	2,83	243	3,5	3,19	548	14,5	2,59	446	10,3
	1	290	4,05	348	6,2	3,13	269	4,1	2,21	190	2,3	2,48	426	9,3	2,02	347	6,6
YFCN 740	10	875	10,93	940	20,7	8,41	723	13,5	5,88	505	7,4	6,68	1149	31,2	5,43	933	22
	7,5	735	9,39	808	15,9	7,23	622	10,3	5,06	435	5,7	5,74	987	23,9	4,66	802	16,9
	5	585	7,73	664	11,3	5,95	512	7,3	4,17	359	4,1	4,72	812	16,9	3,84	660	12
	3	475	6,38	549	8,0	4,92	423	5,2	3,45	297	2,9	3,90	671	12,1	3,17	546	8,6
	1	380	5,16	444	5,5	3,98	342	3,6	2,80	241	2,0	3,15	542	8,3	2,57	442	5,9
YFCN 940	10	1365	16,03	1379	19,8	12,27	1055	12,8	8,50	731	6,9	9,79	1685	29,8	7,93	1364	20,9
	7,5	1145	13,82	1188	15,2	10,58	910	9,8	7,35	632	5,3	8,44	1452	22,9	6,84	1176	16,1
	5	910	11,37	978	10,8	8,72	750	7,0	6,06	521	3,8	6,94	1194	16,3	5,63	969	11,4
	3	755	9,69	834	8,2	7,44	640	5,3	5,18	446	2,9	5,92	1019	12,3	4,81	826	8,7
	1	575	7,58	652	5,3	5,82	501	3,4	4,07	350	1,9	4,63	796	8,0	3,76	647	5,6

LEGEND

WT = Water temperature
 Ph = Emission
 Qw = Water flow
 Dp(c) = Water pressure drop
 Vdc = Inverter Power
 Qv = Air flow

Heating emission of 1 row additional coil

Entering air temperature: 20 °C

			WT: 80/70 °C			WT: 75/65 °C			WT: 70/60 °C			WT: 65/55 °C			WT: 60/50 °C			WT: 55/45 °C		
MODEL ECM	Vdc	Qv	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)
		m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa
YFCN 2	10	330	2,04	176	6,3	1,84	158	5,3	1,63	140	4,3	1,43	123	3,5	1,22	105	2,7	1,018	88	2,0
	7,5	270	1,78	153	4,9	1,60	138	4,1	1,42	122	3,4	1,24	107	2,7	1,07	92	2,1	0,888	76	1,6
	5	220	1,54	132	3,8	1,38	119	3,2	1,23	106	2,6	1,08	93	2,1	0,92	79	1,6	0,77	66	1,2
	3	170	1,29	111	2,8	1,16	100	2,4	1,04	89	1,9	0,91	78	1,6	0,78	67	1,2	0,65	56	0,9
	1	120	1,02	87	1,8	0,92	79	1,5	0,81	70	1,3	0,71	61	1,0	0,61	53	0,8	0,512	44	0,6
YFCN 4	10	515	3,41	293	19,4	3,08	264	16,4	2,74	236	13,6	2,41	207	11	2,07	178	8,6	1,74	150	6,4
	7,5	430	3,01	259	15,6	2,72	234	13,2	2,42	208	10,9	2,13	183	8,8	1,83	158	6,9	1,54	132	5,2
	5	350	2,62	225	12,2	2,36	203	10,3	2,11	181	8,5	1,85	159	6,9	1,60	137	5,4	1,34	115	4,0
	3	280	2,22	191	9,1	2,01	172	7,7	1,79	154	6,4	1,57	135	5,2	1,36	117	4,1	1,139	98	3,0
	1	210	1,82	157	6,4	1,64	141	5,4	1,47	126	4,5	1,29	111	3,6	1,11	96	2,9	0,935	80	2,1
YFCN 6	10	735	4,61	396	6,4	4,14	356	5,4	3,68	317	4,5	3,22	277	3,6	2,76	238	2,8	2,303	198	2,0
	7,5	610	4,05	348	5,1	3,64	313	4,3	3,24	278	3,6	2,83	244	2,9	2,43	209	2,2	2,029	174	1,6
	5	495	3,50	301	4,0	3,15	271	3,3	2,80	241	2,8	2,45	211	2,2	2,11	181	1,7	1,76	151	1,3
	3	395	3,00	258	3,0	2,70	232	2,5	2,40	206	2,1	2,10	181	1,7	1,81	155	1,3	1,509	130	1,0
	1	305	2,50	215	2,2	2,25	194	1,9	2,00	172	1,5	1,76	151	1,2	1,51	130	1,0	1,263	109	0,7
YFCN 7	10	890	5,77	496	11,2	5,20	447	9,5	4,63	398	7,8	4,06	349	6,3	3,50	301	4,9	2,929	252	3,7
	7,5	755	5,15	443	9,2	4,64	399	7,8	4,13	355	6,4	3,63	312	5,2	3,12	268	4,0	2,616	225	3,0
	5	610	4,43	381	7,1	4,00	344	6,0	3,56	306	4,9	3,13	269	4,0	2,69	231	3,1	2,258	194	2,3
	3	500	3,86	332	5,5	3,48	299	4,7	3,10	267	3,9	2,72	234	3,1	2,35	202	2,4	1,969	169	1,8
	1	400	3,30	284	4,2	2,97	256	3,5	2,65	228	2,9	2,33	200	2,4	2,01	173	1,9	1,685	145	1,4
YFCN 9	10	1395	7,46	641	17,6	6,72	578	14,9	5,98	514	12,3	5,24	451	9,9	4,51	388	7,7	3,772	324	5,7
	7,5	1175	6,67	574	14,5	6,01	517	12,2	5,35	460	10,1	4,69	404	8,2	4,04	347	6,4	3,379	291	4,7
	5	945	5,75	495	11,2	5,18	446	9,4	4,62	397	7,8	4,05	348	6,3	3,48	300	4,9	2,919	251	3,7
	3	785	5,08	437	9,0	4,58	394	7,6	4,08	351	6,3	3,58	308	5,1	3,08	265	3,9	2,582	222	2,9
	1	605	4,23	364	6,5	3,82	328	5,5	3,40	292	4,6	2,99	257	3,7	2,57	221	2,9	2,158	186	2,1

LEGEND

WT = Water temperature
 Ph = Emission
 Qw = Water flow
 Dp(c) = Water pressure drop
 Vdc = Inverter Power
 Qv = Air flow

Heating emission of 2 row additional coil

Entering air temperature: 20 °C

			WT: 65/55 °C				WT: 60/50 °C			WT: 55/45 °C			WT: 50/40 °C			WT: 45/40 °C			WT: 45/35 °C		
MODEL ECM	Vdc	Qv	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	Ph	Qw	Dp(c)	
		m³/h	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	kW	l/h	kPa	
YFCN 2	10	330	2,48	214	16,7	2,15	184	13,1	1,81	155	9,9	1,47	126	7,0	1,39	239	21,6	1,13	97	4,5	
	7,5	270	2,13	183	12,7	1,84	158	10	1,55	133	7,5	1,26	109	5,3	1,19	205	16,5	0,97	84	3,4	
	5	220	1,81	155	9,6	1,56	134	7,5	1,32	113	5,7	1,07	92	4,0	1,01	174	12,4	0,83	71	2,6	
	3	170	1,49	128	6,8	1,29	111	5,3	1,10	94	4,1	0,89	77	2,9	0,84	144	8,9	0,69	59	1,9	
	1	120	1,13	97	4,2	0,98	84	3,3	0,83	71	2,5	0,68	58	1,8	0,63	109	5,4	0,52	45	1,2	
YFCN 4	10	515	3,90	335	7,6	3,36	289	5,9	2,82	243	4,4	2,29	197	3,1	2,18	375	9,8	1,76	151	2,0	
	7,5	430	3,40	292	5,9	2,93	252	4,7	2,47	212	3,5	2,00	172	2,5	1,90	327	7,7	1,54	132	1,6	
	5	350	2,90	249	4,5	2,50	215	3,5	2,11	181	2,6	1,71	147	1,9	1,62	279	5,8	1,32	113	1,2	
	3	280	2,43	209	3,3	2,10	181	2,6	1,77	152	1,9	1,44	124	1,4	1,36	234	4,3	1,11	95	0,9	
	1	210	1,94	166	2,2	1,67	144	1,7	1,41	121	1,3	1,15	99	0,9	1,08	186	2,8	0,89	76	0,6	
YFCN 6	10	735	5,63	484	17,8	4,87	419	14	4,11	353	10,5	3,35	288	7,5	3,15	542	23	2,59	223	4,9	
	7,5	610	4,88	419	13,8	4,22	363	10,9	3,56	306	8,2	2,91	250	5,8	2,73	470	17,9	2,25	194	3,8	
	5	495	4,14	356	10,3	3,58	308	8,1	3,03	260	6,2	2,47	213	4,4	2,32	398	13,4	1,92	165	2,9	
	3	395	3,46	297	7,5	3,00	258	5,9	2,53	218	4,5	2,09	180	3,3	1,96	336	9,9	1,62	139	2,1	
	1	305	2,83	243	5,3	2,45	211	4,2	2,08	178	3,2	1,70	146	2,3	1,58	272	6,9	1,32	113	1,5	
YFCN 7	10	890	7,01	603	31,1	6,07	522	24,5	5,14	442	18,6	4,20	361	13,3	3,93	675	40,2	3,27	281	8,7	
	7,5	755	6,17	530	24,8	5,34	460	19,6	4,52	389	14,8	3,70	318	10,6	3,45	594	32,1	2,88	248	6,9	
	5	610	5,20	447	18,4	4,51	388	14,5	3,82	328	11	3,13	269	7,9	2,91	501	23,8	2,44	209	5,2	
	3	500	4,47	384	14,1	3,88	333	11,1	3,28	282	8,4	2,69	232	6,1	2,50	431	18,2	2,10	180	4,0	
	1	400	3,72	320	10,2	3,23	277	8,1	2,74	235	6,1	2,24	193	4,4	2,08	358	13,2	1,75	151	2,9	
YFCN 9	10	1395	9,60	825	54	8,31	714	42,6	7,02	604	32,2	5,74	493	22,9	-	-	-	4,45	383	15	
	7,5	1175	8,49	730	43,5	7,35	632	34,3	6,22	535	26	5,08	437	18,5	-	-	-	3,94	339	12,1	
	5	945	7,22	621	32,7	6,25	538	25,8	5,29	455	19,5	4,33	372	14	-	-	-	3,36	289	9,1	
	3	785	6,28	540	25,6	5,45	468	20,2	4,61	396	15,3	3,77	324	11	-	-	-	2,93	252	7,2	
	1	605	5,12	440	17,8	4,44	381	14,1	3,76	323	10,7	3,08	265	7,7	-	-	-	2,40	206	5,0	

LEGEND

WT = Water temperature
 Ph = Emission
 Qw = Water flow
 Dp(c) = Water pressure drop
 Vdc = Inverter Power
 Qv = Air flow

Air flow and correction factors for emission with different available pressures

		Qv (m³/h)										K1										K2									
MODEL ECM	Vdc	Ap (Pa)										Ap (Pa)										Ap (Pa)									
		0	5	10	15	20	25	30	35	40	0	5	10	15	20	25	30	35	40	0	5	10	15	20	25	30	35	40			
YFCN 2	10	330	312	288	257	223	171	88	-	-	1,00	0,95	0,89	0,82	0,73	0,60	0,32	-	-		0,95	0,88	0,80	0,72	0,58	0,29	-	-			
	8,5	307	276	251	213	162	92	29	-	-	1,00	0,91	0,85	0,75	0,61	0,36	0,06	-	-	1,00	0,90	0,83	0,73	0,59	0,34	0,03	-	-			
	7,5	270	252	219	178	103	-	-	-	-	1,00	0,94	0,84	0,72	0,46	-	-	-	-	1,00	0,94	0,83	0,70	0,44	-	-	-	-			
	6,5	248	227	187	130	56	-	-	-	-	1,00	0,93	0,80	0,60	0,26	-	-	-	-	1,00	0,92	0,78	0,58	0,24	-	-	-	-			
	5	220	187	126	55	-	-	-	-	-	1,00	0,88	0,65	0,30	-	-	-	-	-	1,00	0,86	0,63	0,27	-	-	-	-	-			
	3	170	122	45	-	-	-	-	-	-	1,00	0,77	0,32	-	-	-	-	-	-	1,00	0,75	0,29	-	-	-	-	-	-			
	2	144	82	-	-	-	-	-	-	-	1,00	0,65	-	-	-	-	-	-	-	1,00	0,63	-	-	-	-	-	-	-			
	1	120	68	-	-	-	-	-	-	-	1,00	0,64	-	-	-	-	-	-	-	1,00	0,62	-	-	-	-	-	-	-			
YFCN 4	10	515	499	477	448	401	332	247	100	-	1,00	0,97	0,94	0,89	0,82	0,71	0,56	0,22	-		0,97	0,93	0,88	0,80	0,69	0,54	0,19	-			
	8,5	459	444	419	377	323	229	54	-	-	1,00	0,97	0,93	0,85	0,76	0,58	0,10	-	-	1,00	0,97	0,92	0,84	0,74	0,56	0,07	-	-			
	7,5	430	396	363	320	240	89	-	-	-	1,00	0,93	0,87	0,79	0,63	0,24	-	-	-	1,00	0,92	0,86	0,77	0,61	0,21	-	-	-			
	6,5	394	374	333	272	135	-	-	-	-	1,00	0,95	0,87	0,74	0,41	-	-	-	-	1,00	0,95	0,86	0,73	0,39	-	-	-	-			
	5	350	308	255	107	-	-	-	-	-	1,00	0,90	0,78	0,37	-	-	-	-	-	1,00	0,89	0,76	0,35	-	-	-	-	-			
	3	280	227	99	-	-	-	-	-	-	1,00	0,84	0,43	-	-	-	-	-	-	1,00	0,83	0,41	-	-	-	-	-	-			
	2	233	170	-	-	-	-	-	-	-	1,00	0,78	-	-	-	-	-	-	-	1,00	0,76	-	-	-	-	-	-	-			
	1	210	126	-	-	-	-	-	-	-	1,00	0,67	-	-	-	-	-	-	-	1,00	0,65	-	-	-	-	-	-	-			
YFCN 6	10	735	696	673	622	558	431	286	168	-	1,00	0,95	0,93	0,87	0,80	0,66	0,47	0,27	-		0,95	0,92	0,86	0,78	0,64	0,45	0,24	-			
	8,5	650	628	583	525	421	269	110	-	-	1,00	0,97	0,91	0,84	0,71	0,49	0,18	-	-	1,00	0,97	0,90	0,82	0,69	0,47	0,15	-	-			
	7,5	610	564	528	437	284	129	-	-	-	1,00	0,94	0,89	0,77	0,55	0,25	-	-	-	1,00	0,93	0,87	0,75	0,53	0,22	-	-	-			
	6,5	558	510	457	340	189	-	-	-	-	1,00	0,93	0,85	0,68	0,41	-	-	-	-	1,00	0,92	0,83	0,66	0,39	-	-	-	-			
	5	495	432	352	154	-	-	-	-	-	1,00	0,89	0,76	0,38	-	-	-	-	-	1,00	0,88	0,74	0,36	-	-	-	-	-			
	3	395	319	151	82	-	-	-	-	-	1,00	0,84	0,46	0,24	-	-	-	-	-	1,00	0,82	0,44	0,21	-	-	-	-	-			
	2	351	221	-	-	-	-	-	-	-	1,00	0,70	-	-	-	-	-	-	-	1,00	0,68	-	-	-	-	-	-	-			
	1	305	177	-	-	-	-	-	-	-	1,00	0,65	-	-	-	-	-	-	-	1,00	0,63	-	-	-	-	-	-	-			
YFCN 7	10	890	846	815	756	699	590	486	341	191	1,00	0,96	0,93	0,87	0,82	0,72	0,62	0,46	0,25		0,95	0,92	0,86	0,81	0,70	0,60	0,44	0,22			
	8,5	805	756	703	652	560	437	279	114	-	1,00	0,95	0,89	0,84	0,75	0,62	0,42	0,14	-	1,00	0,94	0,88	0,83	0,73	0,60	0,40	0,11	-			
	7,5	755	696	637	558	459	300	140	-	-	1,00	0,93	0,87	0,79	0,68	0,48	0,21	-	-	1,00	0,93	0,86	0,77	0,66	0,46	0,18	-	-			
	6,5	703	637	560	449	336	175	-	-	-	1,00	0,92	0,83	0,70	0,56	0,30	-	-	-	1,00	0,91	0,82	0,68	0,54	0,27	-	-	-			
	5	610	532	443	313	133	-	-	-	-	1,00	0,89	0,78	0,59	0,26	-	-	-	-	1,00	0,88	0,76	0,57	0,23	-	-	-	-			
	3	500	398	255	83	-	-	-	-	-	1,00	0,83	0,59	0,18	-	-	-	-	-	1,00	0,81	0,57	0,15	-	-	-	-	-			
	2	452	348	178	-	-	-	-	-	-	1,00	0,81	0,47	-	-	-	-	-	-	1,00	0,79	0,45	-	-	-	-	-	-			
	1	400	279	-	-	-	-	-	-	-	1,00	0,75	-	-	-	-	-	-	-	1,00	0,73	-	-	-	-	-	-	-			
YFCN 9	10	1395	1310	1225	1180	1125	1060	1000	930	860	1,00	0,95	0,90	0,87	0,84	0,80	0,77	0,73	0,68		0,94	0,89	0,86	0,82	0,78	0,75	0,71	0,66			
	8,5	1265	1175	1080	1020	960	880	800	720	640	1,00	0,94	0,88	0,84	0,80	0,75	0,70	0,64	0,59	1,00	0,93	0,86	0,82	0,78	0,73	0,68	0,62	0,57			
	7,5	1175	1075	970	910	840	750	650	545	450	1,00	0,93	0,85	0,81	0,77	0,70	0,63	0,54	0,46	1,00	0,92	0,84	0,80	0,75	0,68	0,61	0,52	0,44			
	6,5	1085	980	865	790	700	605	500	350	200	1,00	0,92	0,83	0,78	0,71	0,63	0,54	0,39	0,21	1,00	0,91	0,82	0,76	0,69	0,61	0,52	0,37	0,18			
	5	945	835	680	580	460	315	160	-	-	1,00	0,90	0,77	0,68	0,57	0,40	0,18	-	-	1,00	0,89	0,75	0,66	0,55	0,38	0,15	-	-			
	3	785	620	400	230	50	-	-	-	-	1,00	0,83	0,59	0,35	-	-	-	-	-	1,00	0,81	0,57	0,33	-	-	-	-	-			
	2	700	500	200	-	-	-	-	-	-	1,00	0,77	0,34	-	-	-	-	-	-	1,00	0,75	0,32	-	-	-	-	-	-			
	1	605	390	-	-	-	-	-	-	-	1,00	0,71	-	-	-	-	-	-	-	1,00	0,69	-	-	-	-	-	-	-			

LEGEND

Qv = Air flow

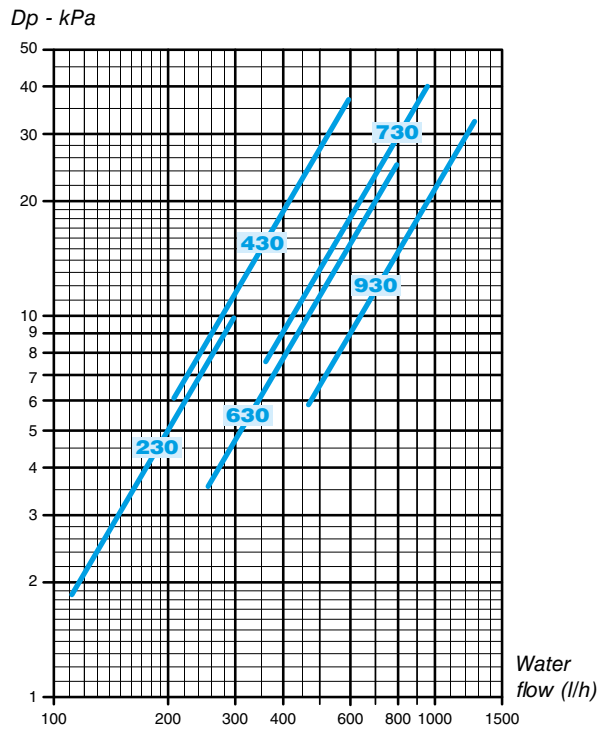
K1 = Correction factors for Total cooling emission

K2 = Correction factors for Sensible cooling emission and Heating emission

Ap = Available pressure

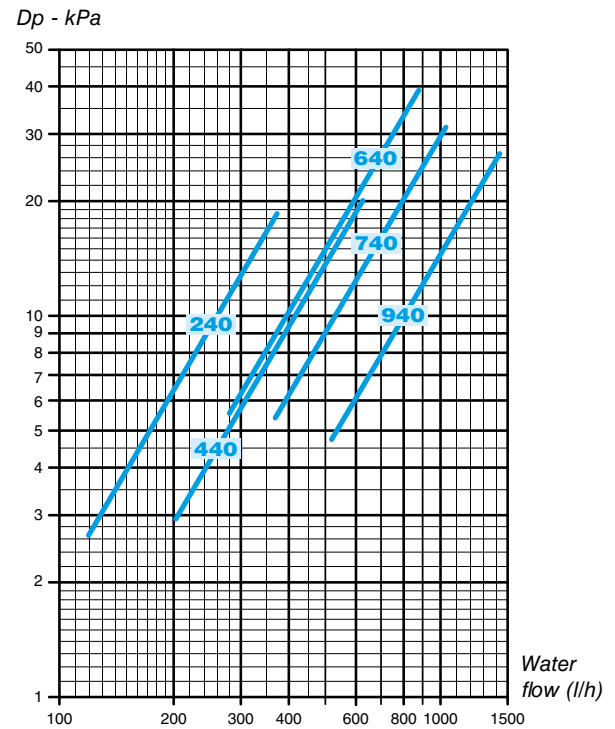
Vdc = Inverter Power

3 row coil



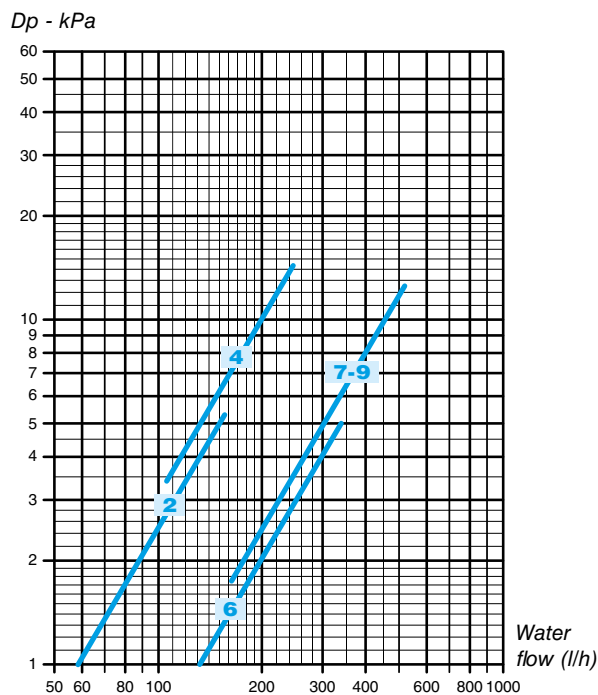
The water pressure drop figures refer to a mean water temperature of **10 °C**; for different temperatures, multiply the pressure drop figures by the correction factors **K**.

4 row coil



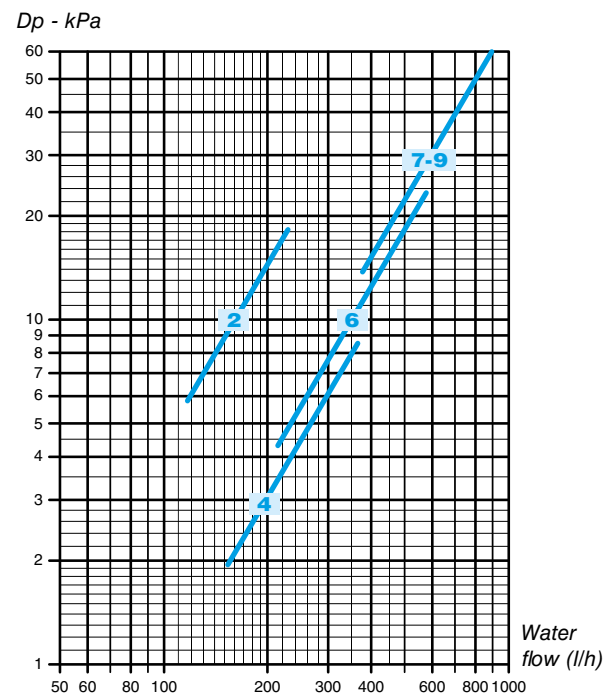
°C	20	30	40	50	60	70	80
K	0,94	0,90	0,86	0,82	0,78	0,74	0,70

1 row additional coil



The water pressure drop figures refer to a mean water temperature of **60 °C**; for different temperatures, multiply the pressure drop figures by the correction factors **K**.

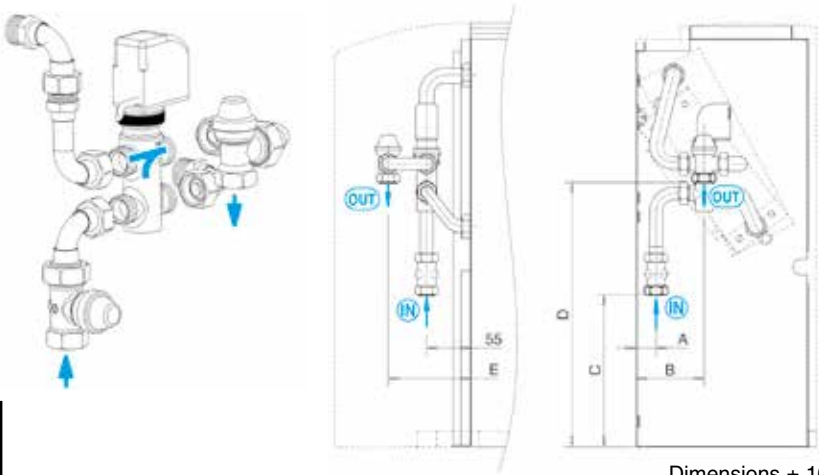
2 row additional coil



°C	40	50	70	80
K	1,12	1,06	0,94	0,88

MBV
main coil 3 way valve

Control valve kit:
3 way valve, ON-OFF,
with electric motor and mounting kit
with micrometric lockshield valve.



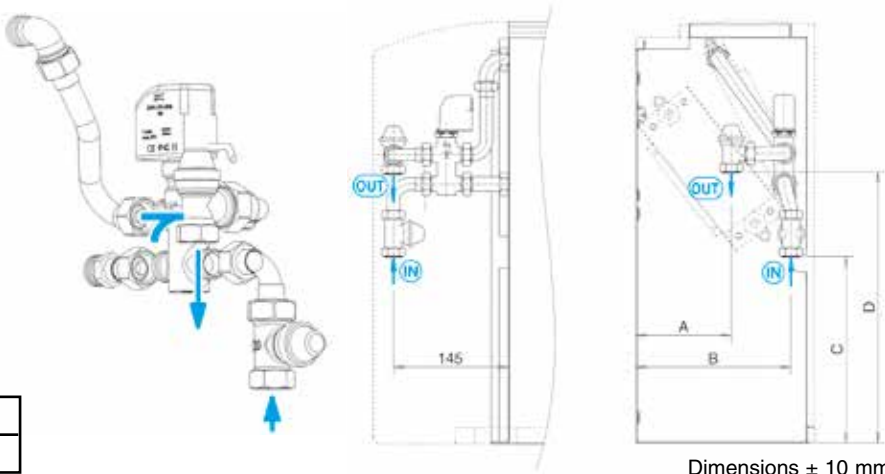
Dimensions ± 10 mm

VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD

Mod.	Dimensions (mm)					Valve			Micrometric lockshield valve			Code	
	A	B	C	D	E	DN	(Ø)	Kvs	DN	(Ø)	Kvs	FITTED	NOT FITTED
YFCN													
2 - 4	25	85	190	290	105	15	1/2"	1,6	15	1/2" F	2	9066561	9066560
6 - 7	25	85	190	290	105	20	3/4"	2,5	15	1/2" F	2	9060471	9060474
9	50	120	185	290	105	20	3/4"	2,5	15	1/2" F	2	9060471	9060474

ABV
additional coil 3 way valve

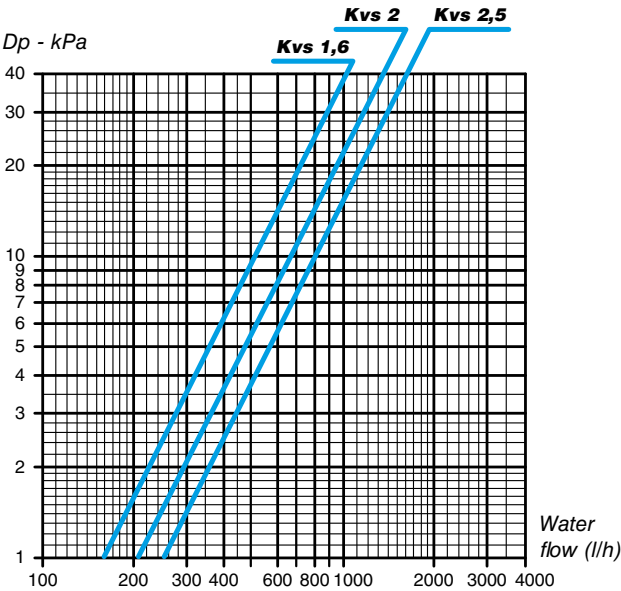
Control valve kit:
3 way valve, ON-OFF,
with electric motor and mounting kit
with micrometric lockshield valve.



Dimensions ± 10 mm

VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD

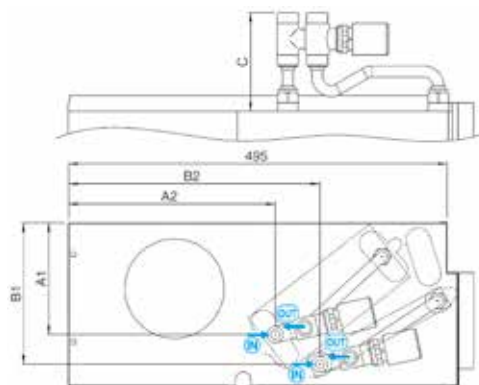
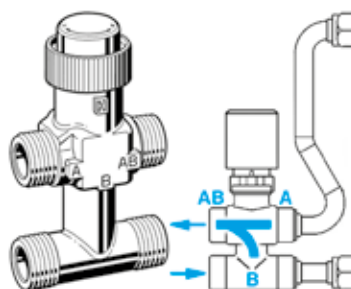
Mod.	Dimensions (mm)				Valve			Micrometric lockshield valve			Code	
	A	B	C	D	DN	(Ø)	Kvs	DN	(Ø)	Kvs	FITTED	NOT FITTED
YFCN												
2 ÷ 7	120	195	240	340	15	1/2"	1,6	15	1/2" F	2	9060472	9060475
9	135	200	235	330	15	1/2"	1,6	15	1/2" F	2	9060472	9060475



VS

simplified kit for 3 way valve (concealed model only)

3 way valve, (ON-OFF)
with electric motor and mounting kit.
Valve with flat connection
without micrometric lockshield valve.



Dimensions ± 10 mm

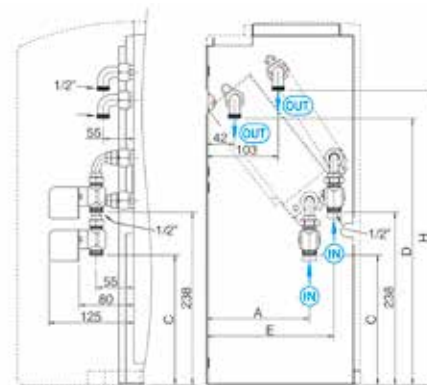
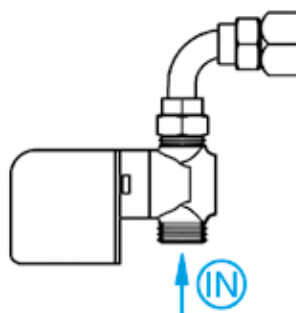
VERSION	YFCN-ECM
MODEL	CD

Mod.	Dimensions (mm)					MAIN					ADDITIONAL				
	MAIN		ADDITIONAL		C	Valve			Code		Valve			Code	
	A1	A2	B1	B2		DN	(Ø)	Kvs	FITTED	NOT FITTED	DN	(Ø)	Kvs	FITTED	NOT FITTED
YFCN															
2 - 4	152	270	185	330	116	15	1/2"	1,6	9066571	9066570	15	1/2"	1,6	9060483	9060480
6 - 7	152	268	185	330	124	20	3/4"	2,5	9060484	9060481					
9	177	270	210	327	124	20	3/4"	2,5	9060484	9060481					

V2

2 way valve for main and additional coil

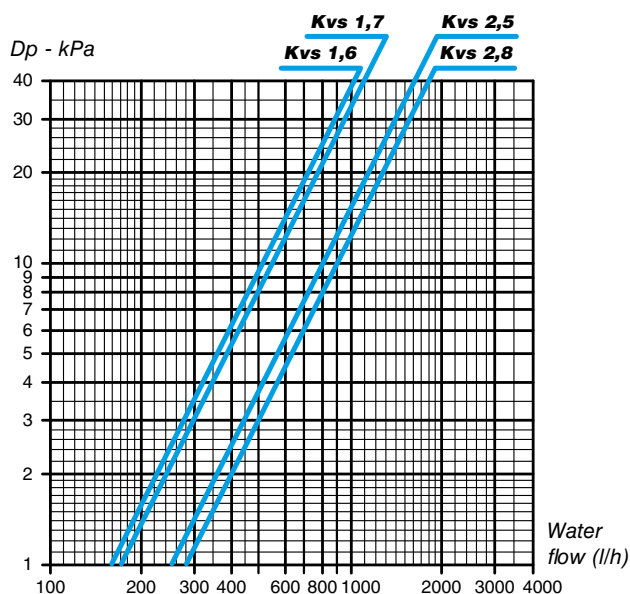
Control valve kit:
2 way valve, ON-OFF,
with electric motor and mounting kit.



Dimensions ± 10 mm

VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD

Mod.	Dimensions (mm)					MAIN					ADDITIONAL				
	MAIN		ADDITIONAL		H	Valve			Code		Valve			Code	
	A	C	D	E		DN	(Ø)	Kvs	FITTED	NOT FITTED	DN	(Ø)	Kvs	FITTED	NOT FITTED
YFCN															
2 - 4	149	180	438	186	456	15	1/2"	1,7	9060476	9060478	15	1/2"	1,7	9060476	9060478
6 - 7	150	181	438	186	456	20	3/4"	2,8	9060477	9060479					
9	176	175	422	210	440	20	3/4"	2,8	9060477	9060479					



3 way double valve kit for 4 tube installation and single coil

The kit consists of:

- 2 special 3 way valves;
- 2 230 Volt ON-OFF actuators with internal safety micro switch;
- insulated pipe kit;
- external valve insulation sleeve.

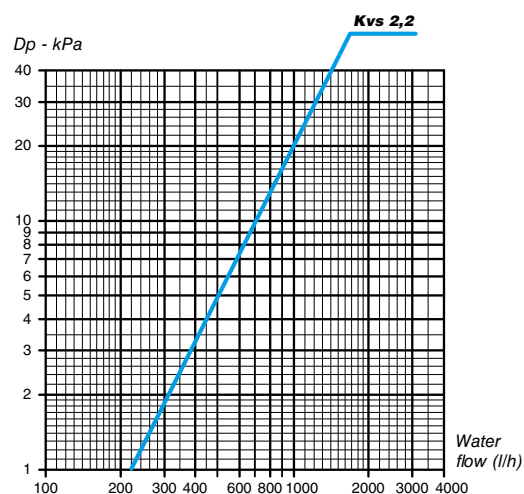
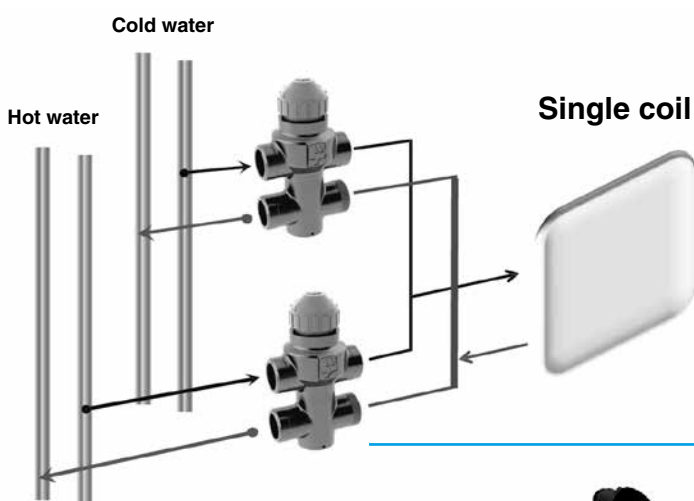
VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD

-ECM Mod.	Ø	Kvs	FITTED		NOT FITTED	
			CODE	TYPE	CODE	TYPE
YFCN 2 ÷ 9	3/4"	2,2	9066572W	V3M4X2	9066562W	V3S4X2

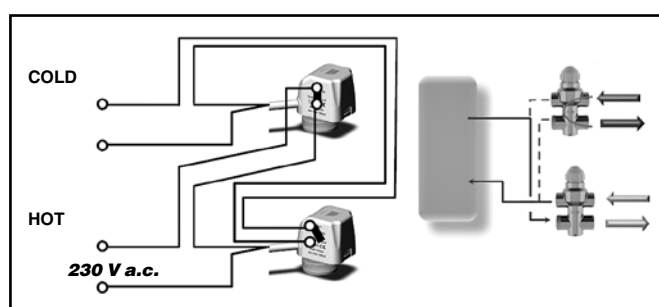
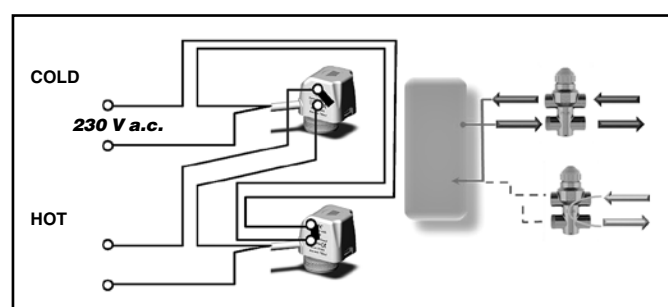
The kit uses a special 3 way valve which allows the transformation of the fan coil, equipped with one single coil, into a 4 tube installation.

The new **4X2** valve has been designed to keep the water flow between flow and return perfectly separated, allowing its use in parallel.

Therefore, it can be used on 4 pipe fan coil systems with one single heat-exchange coil on board the fan coil.

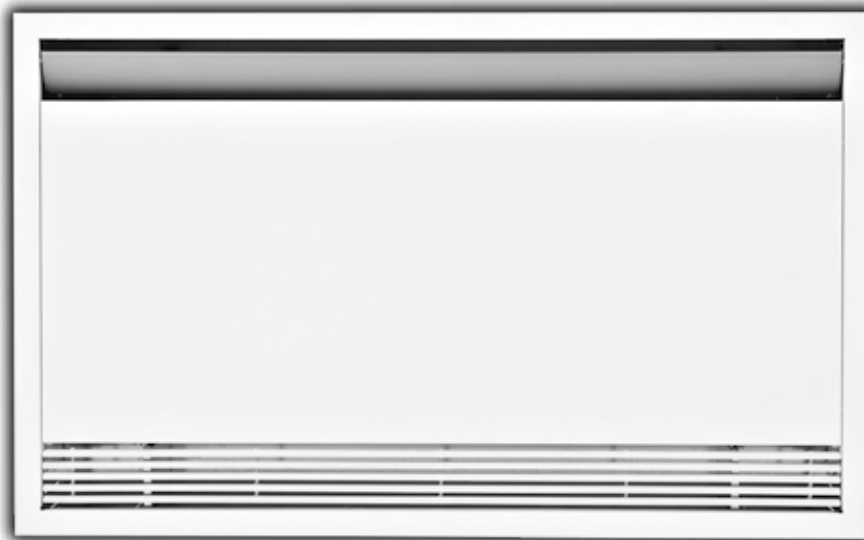


Double actuator electrical connections



BREEZE frame kit for wall concealed installation

The Breeze frame kit is available in 3 sizes and allows the installation of recessed YFCN-ECM fan coils. The kit includes a top closing panel that prevents the access to technical spaces and coil ensuring the safety of the end user.



Recessed box kit



Aesthetic frame kit



The **Aesthetic frame kit** and the **Recessed box kit** have different codes as they are separately delivered with their own packaging and they must be assembled together.

These items are only suitable for YFCN-ECM models, CD version, 2-6 sizes.

When the Fan Coil is equipped with the Recessed box kit, it must be connected to a remote control and it is not possible to use the built-in electronic controls.

With the Breeze frame kit the simplified valve kits can not be installed.

Technical characteristics of the main components:**The aesthetic frame includes:**

- the closing frame;
- air supply louvre;
- front panel;
- air intake grid.

Perimeter frame, front panel and intake grid are made of steel painted with epoxy polyester coat, dried in a furnace at 180°, colour RAL 9003. It is possible to repaint the entire frame of the same color as the wall.



The air supply louvre is made of extruded aluminum with satin finish.



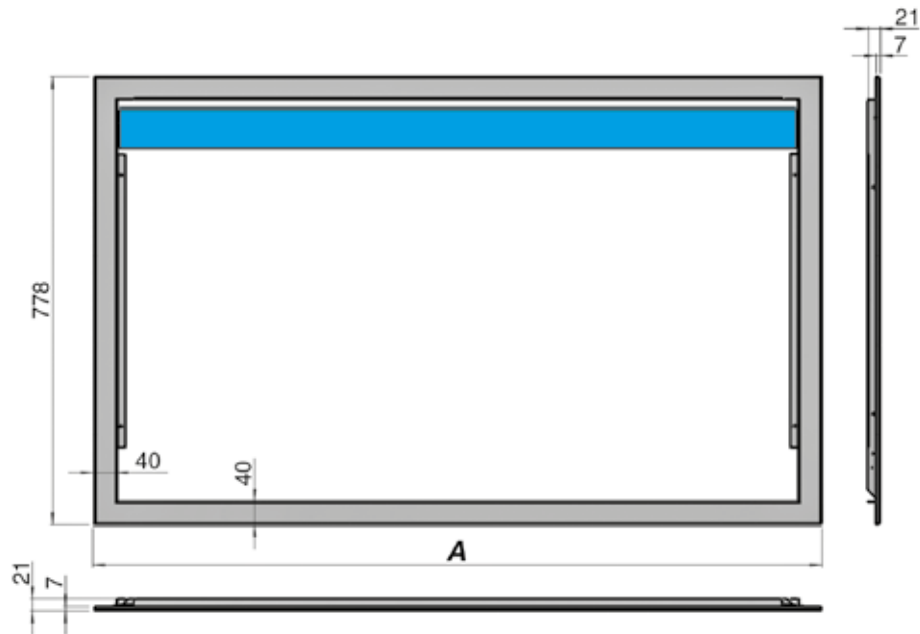
The grid is fixed to the frame by using a simple and fast connecting system and it can be easily removed to clean the filter and the inner casing.



The recessed box is made of galvanized steel with opening for the electrical and hydraulic connections. To fit in the Fan Coil easily, there are 4 grub screws.



Aesthetic frame dimensions

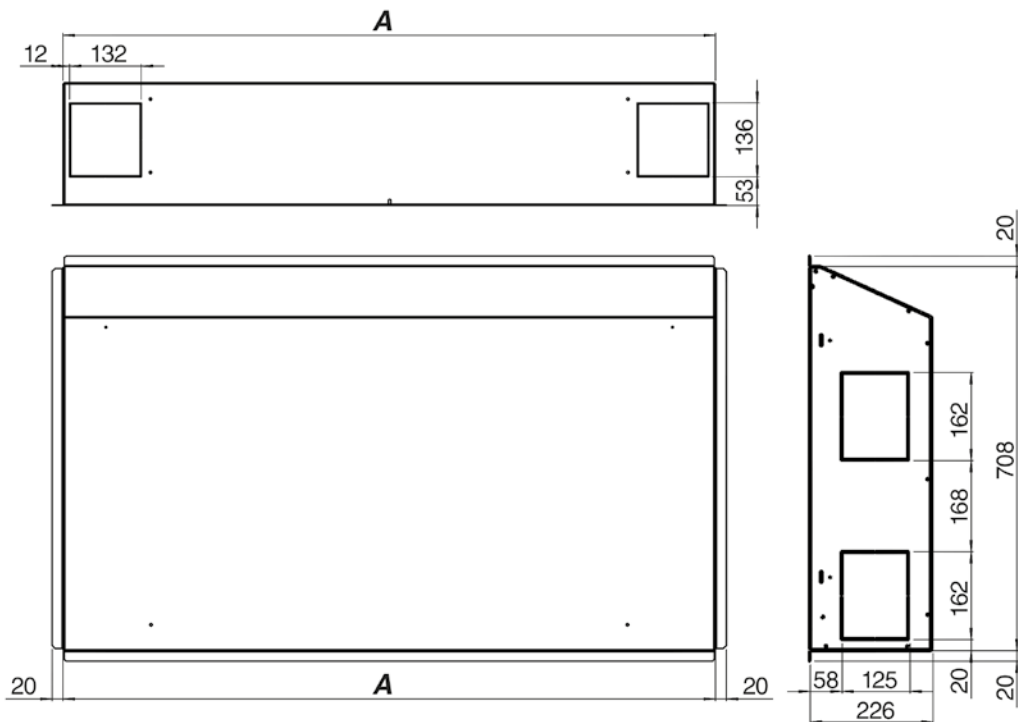


VERSION	YFCN-ECM
MODEL	CD

SIZE	TYPE	A	PACKAGED AESTHETIC FRAME WEIGHT	CODE
2	CBR 2	837	10,5	9076452
4	CBR 4	1052	12,5	9076453
6	CBR 6	1267	14,5	9076455



Recessed box dimensions



VERSION	YFCN-ECM
MODEL	CD

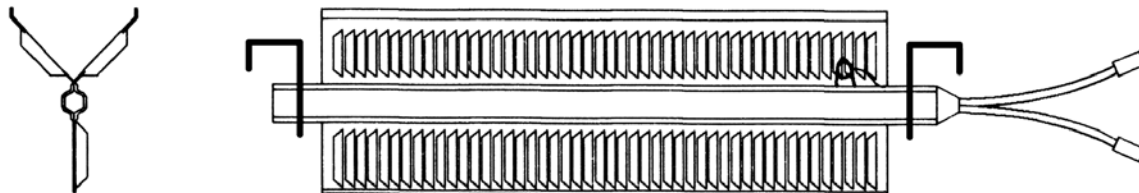
SIZE	TYPE	A	PACKAGED RECESSED BOX WEIGHT	CODE
2	IBR 2	771	13	9076462
4	IBR 4	986	16	9076463
6	IBR 6	1201	18	9076465



BEL electric heater

1 PHASE 230V

Electric heater with integral: safety thermostat and relay control.



VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD

SIZE		
YFCN-ECM	WATT	CODE
-	650	9066491E
2	1000	9066492E
	600	9066482E
	400	9066472E
4	1500	9066493E
	900	9066483E
	600	9066473E
6	2000	9066495E
	1250	9066485E
	750	9066475E
7 - 9	2500	9066497E
	1500	9066487E
	1000	9066477E

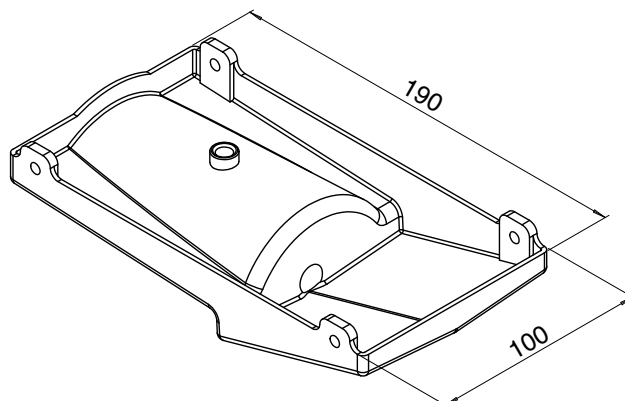
VERSION	YFCN-ECM
MODEL	CD

SIZE		
YFCN-ECM	WATT	CODE
-	650	9066611
2	1000	9066612
	600	9066602
	400	9066592
4	1500	9066613
	900	9066603
	600	9066593
6	2000	9066615
	1250	9066605
	750	9066595
7 - 9	2500	9066617
	1500	9066607
	1000	9066597

NOTE: The electric heater must be fitted on the fan coil unit on site and can not be added later.

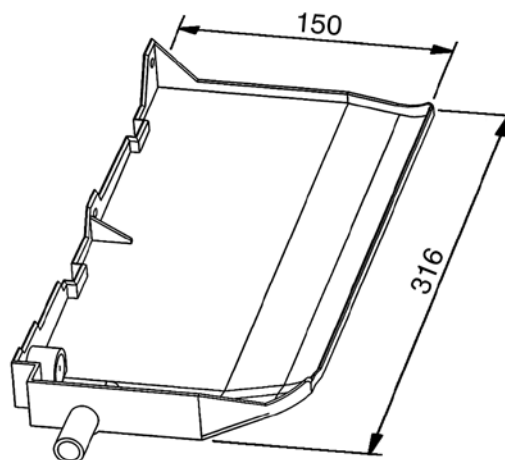
ACTV extension condensate collection tray to cover valve assembly (for vertical units)

VERSION	YFCN-ECM
MODEL	VC - VCB - CD (vertical)
CODE	6060400



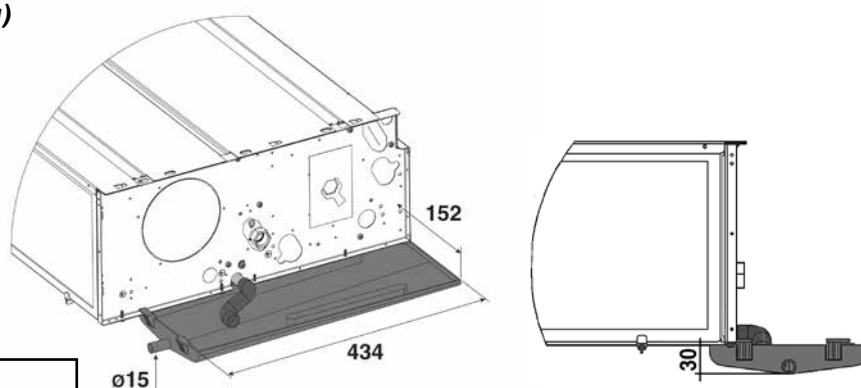
ACTH extension condensate collection tray to cover valve assembly (for HC horizontal units with casing)

VERSION	YFCN-ECM	
MODEL	HC (horizontal)	
CONNECTION SIDE	LEFT	RIGHT
TYPE	ACTH-SX	ACTH-DX
CODE	6060402	6060403



ACTI extension condensate collection tray to cover valve assembly (for CD horizontal units without casing)

VERSION	YFCN-ECM	
MODEL	CD (horizontal)	
CODE	6066039	



Not to be used with **KAF** accessory.

DRPV-C condensate pump (for vertical installations)

VERSION	YFCN-ECM	
MODEL	VC - VCB - CD (vertical)	
	FITTED	NOT FITTED
TYPE	DRPV-C-M	DRPV-C-S
CODE	9066297	9066296



HEIGHT FOR VERTICAL FLOW (m)	WATER FLOW (l/h) DEPENDING ON THE LENGTH OF HORIZONTAL FLOW	
	5 m	10 m
2	5,6	5,2
4	3,2	2,9

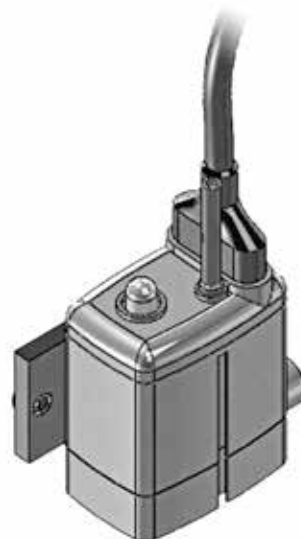
DRPO-C condensate pump (for VC horizontal installations)

VERSION	YFCN-ECM
MODEL	VC (horizontal) *
CODE	9066295

* With HC model the pump can not be mounted; it is possible to use VC model in horizontal position using GAP and FT.

	FITTED	NOT FITTED
MODEL	DRPO-C-M	DRPO-C-S
CODE	9066295	9066294

HEIGHT FOR VERTICAL FLOW (m)	WATER FLOW (l/h) DEPENDING ON THE LENGTH OF HORIZONTAL FLOW	
	5 m	10 m
2	5,6	5,2
4	3,2	2,9



DRPI-C condensate pump (for CD horizontal installations)

VERSION	YFCN-ECM
MODEL	CD (horizontal)
CODE	9066180

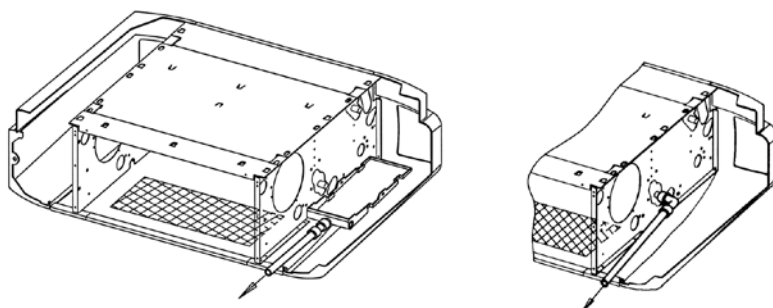
	FITTED	NOT FITTED
MODEL	DRPI-C-M	DRPI-C-S
CODE	9066298	9066180

HEIGHT FOR VERTICAL FLOW (m)	WATER FLOW (l/h) DEPENDING ON THE LENGTH OF HORIZONTAL FLOW	
	5 m	10 m
2	5,6	5,2
4	3,2	2,9



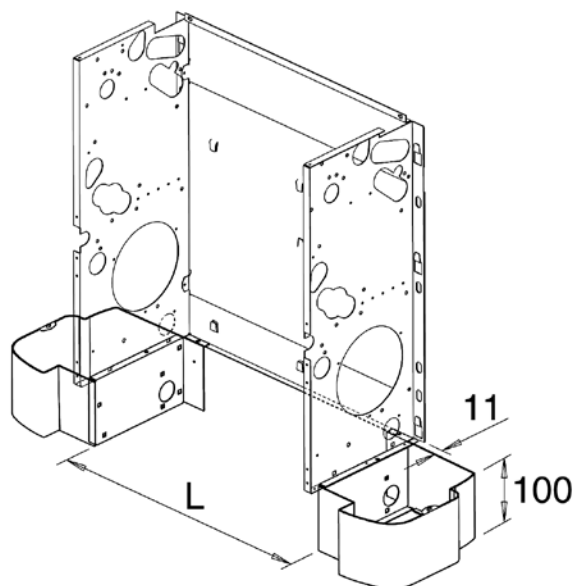
SCR plastic condensate drain pipe with fast connection (allows correct condensate drain)

VERSION	YFCN-ECM
MODEL	HC - CD
CODE	6060420



FT feet

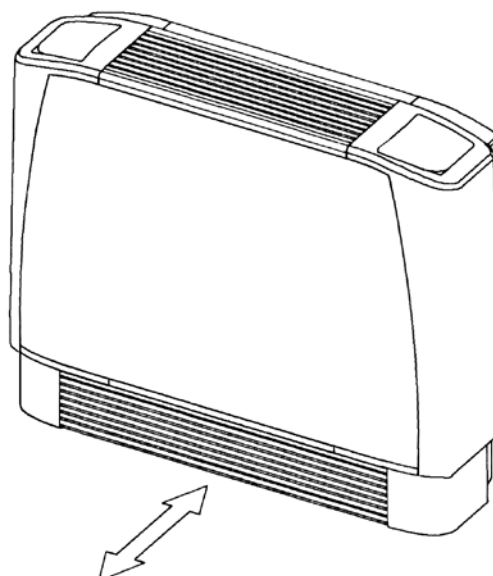
VERSION	YFCN-ECM	
MODEL	VC	
SIZE	L	CODE
2	430	9060150
4	645	9060150
6	860	9060150
7	1119	9060150
9	1119	9060151



GAP

Aluminium low intake grid
(to be installed with FT feet)

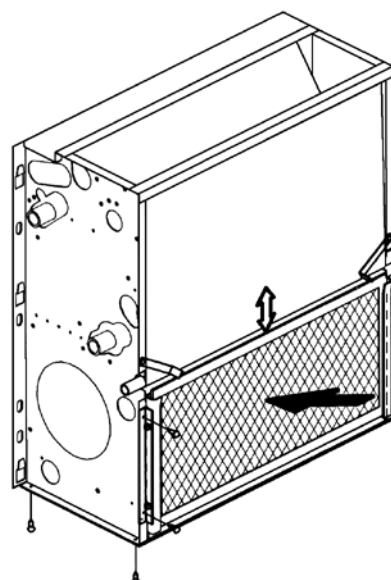
VERSION	YFCN-ECM
MODEL	VC
SIZE	CODE
2	9066542
4	9066543
6	9066545
7 - 9	9066547



KAF frontal intake kit

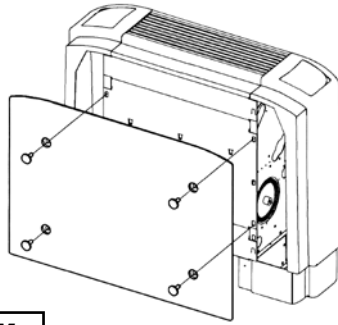
Bottom closing panel and filter sliding guides.

VERSION	YFCN-ECM
MODEL	CD
SIZE	CODE
2	9066502
4	9066503
6	9066505
7	9066507
9	9066508



Not to be used with **ACTI** accessory.

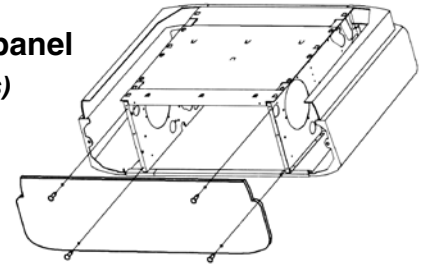
RCPV rear closing panel (for vertical units)



VERSION	YFCN-ECM
MODEL	VC - VCB

SIZE	CODE
2	9060180
4	9060181
6	9060182
7 - 9	9060183

RCPH bottom closing panel (for horizontal units)



VERSION	YFCN-ECM
MODEL	HC

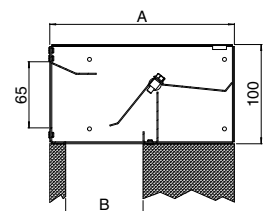
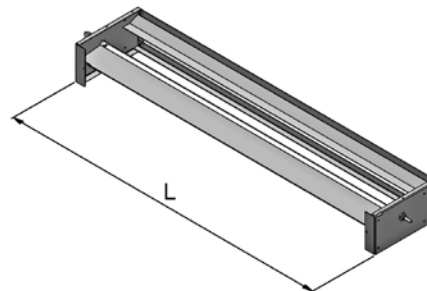
SIZE	CODE
2	9060190
4	9060191
6	9060192
7	9060193
9	9060194

SAE fresh air mixing damper (not mounted, CD only)

(can not be motorized)

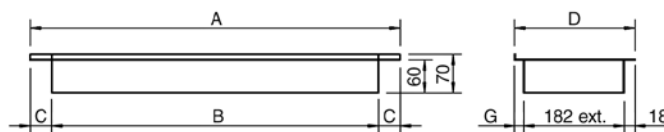
VERSION	YFCN-ECM
MODEL	CD

SIZE	A	B	L	CODE
2	186	78	454	9066532
4	186	78	669	9066533
6	186	78	884	9066535
7	186	78	1099	9066537
9	216	108	1099	9066538



FRD straight inlet flange

Can be used together with GRAG air inlet grid.
Made of galvanized steel.

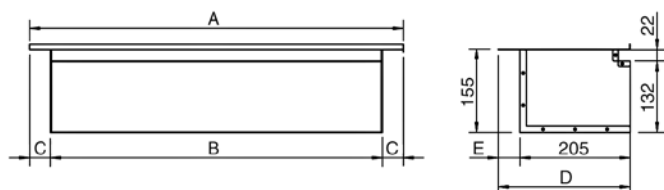


VERSION	YFCN-ECM
MODEL	CD

SIZE							
YFCN	TYPE	A	B	C	D	G	CODE
2	FRD - 2	454	390	32	216	16	9060720
4	FRD - 3/4	669	590	39,5	216	16	9060721
6	FRD - 5/6	884	790	47	216	16	9060722
-	FRD - 4S	884	790	47	246	46	9038002
7	FRD - 7	1099	990	54,5	216	16	9060723
9	FRD - 8/9	1099	990	54,5	246	46	9060724

FR 90 90° inlet flange

Can be used together with GRAP air inlet grid.
Made of galvanized steel.

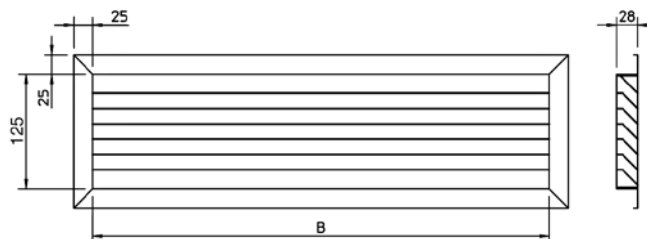


VERSION	YFCN-ECM
MODEL	CD

SIZE							
YFCN	TYPE	A	B	C	D	E	CODE
2	FR90 - 2	454	390	32	216	11	9060710
4	FR90 - 3/4	669	590	39,5	216	11	9060711
6	FR90 - 5/6	884	790	47	216	11	9060712
-	FR90 - 4S	884	790	47	246	41	9038001
7	FR90 - 7	1099	990	54,5	216	11	9060713
9	FR90 - 8/9	1099	990	54,5	246	41	9060714

GRAP air inlet grid

To be used with FR 90 90° inlet flange.
Made of anodized aluminium.

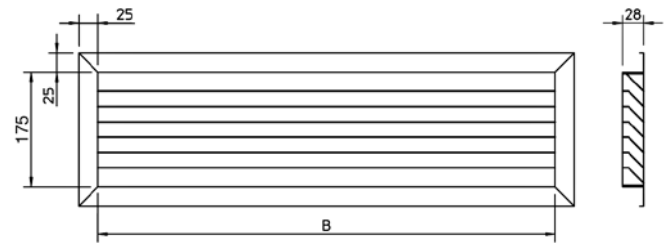


VERSION	YFCN-ECM
MODEL	CD

SIZE				
YFCN	TYPE	DESCRIPTION	B	CODE
2	GRAP - 2	Grid 400x150	375	9060760
4	GRAP - 3/4	Grid 600x150	575	9060761
6	GRAP - 5/6	Grid 800x150	775	9060762
7 - 9	GRAP - 7/9	Grid 1000x150	975	9060763

GRAG air inlet grid

To be used with FRD straight inlet flange.
Made of anodized aluminium.

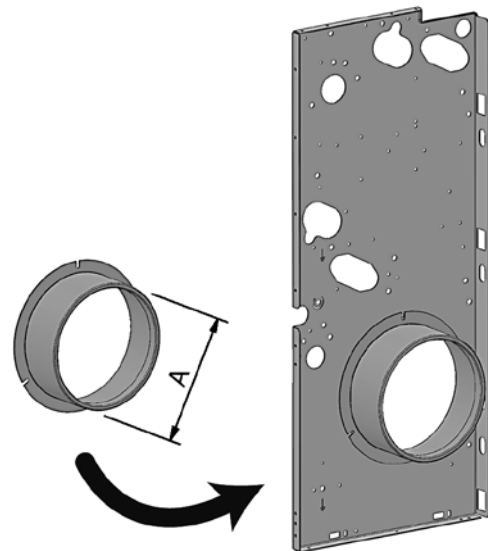


VERSION	YFCN-ECM
MODEL	CD

SIZE				
YFCN	TYPE	DESCRIPTION	B	CODE
2	GRAG - 2	Grid 400x200	375	9060764
4	GRAG - 3/4	Grid 600x200	575	9060765
6	GRAG - 5/6	Grid 800x200	775	9060766
7 - 9	GRAG - 7/9	Grid 1000x200	975	9060767

FRC fresh air connection

(not mounted)

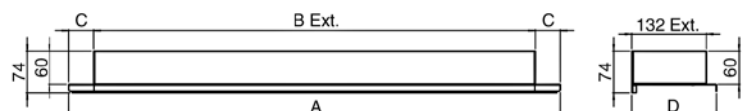


VERSION	YFCN-ECM
MODEL	CD

SIZE	TYPE	A	CODE
2 ÷ 9	FRC 100	98	6064191
2 ÷ 9	FRC 120	122	6064192

FMD straight outlet flange

Made of galvanized steel.

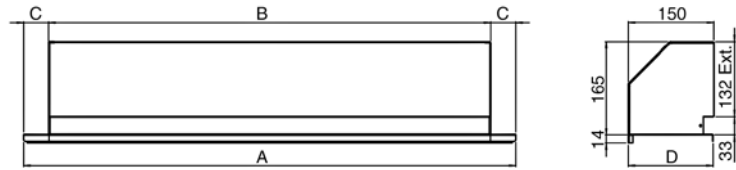


VERSION	YFCN-ECM
MODEL	CD

SIZE						
YFCN	TYPE	A	B	C	D	CODE
2	FMD - 2	452	390	31	152	9066372
4	FMD - 3/4	667	590	38,5	152	9066373
6	FMD - 5/6	882	790	46	152	9066375
-	FMD - 4S	882	790	46	179	9069232
7	FMD - 7	1097	990	53,5	152	9066377
9	FMD - 8/9	1097	990	53,5	179	9066378

FM 90 90° outlet flange

Made of galvanized steel
insulated with polyethylene lining.

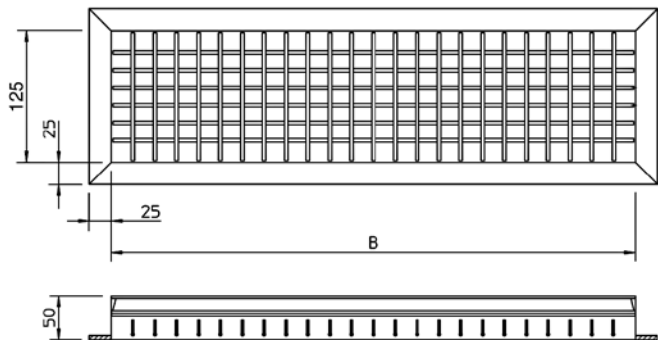


VERSION	YFCN-ECM
MODEL	CD

SIZE						
YFCN	TYPE	A	B	C	D	CODE
2	FM90 - 2	452	390	31	152	9066382
4	FM90 - 3/4	667	590	38,5	152	9066383
6	FM90 - 5/6	882	790	46	152	9066385
-	FM90 - 4S	882	790	46	179	9060242
7	FM90 - 7	1097	990	53,5	152	9066387
9	FM90 - 8/9	1097	990	53,5	179	9066388

BMA air outlet grid

Double louvre grid to be fitted to the duct,
to the FMD straight outlet flange
or to the FM 90 90° outlet flange.
Made of anodized aluminium.

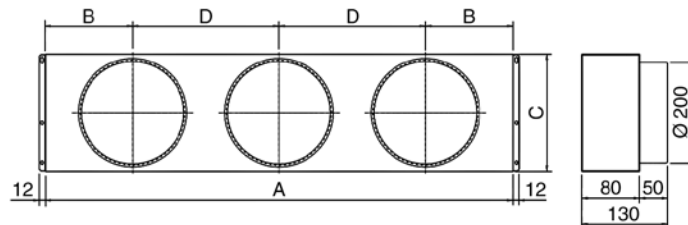


VERSION	YFCN-ECM
MODEL	CD

SIZE			
YFCN	TYPE	B	CODE
2	BMA - 2	375	9060750
4	BMA - 3/4	575	9060751
6	BMA - 5/6	775	9060752
7 - 9	BMA - 7/9	975	9060753

PRC air inlet spigot plenum

Made of galvanized steel
insulated with polyethylene lining.



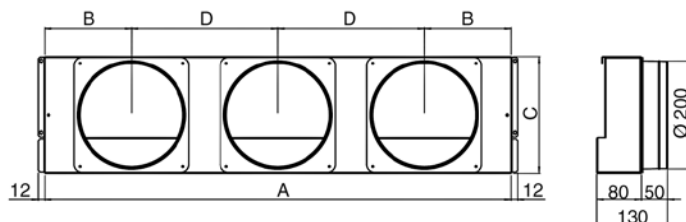
All the plenums
are supplied with spigots
for the connection of flexible ducts.

VERSION	YFCN-ECM
MODEL	CD

SIZE							
YFCN	TYPE	A	B	C	D	SPIGOTS	CODE
2	PRC - 2	430	107	218	216	N° 2	9066462
4	PRC - 3/4	645	166	218	313	N° 2	9066463
6	PRC - 5/6	860	160	218	270	N° 3	9066465
-	PRC - 4S	860	160	248	270	N° 3	9038050
7	PRC - 7	1075	190	218	347,5	N° 3	9066467
9	PRC - 8/9	1075	190	248	347,5	N° 3	9066468

PMC spigot diffuser

Made of galvanized steel
insulated with polyethylene lining.



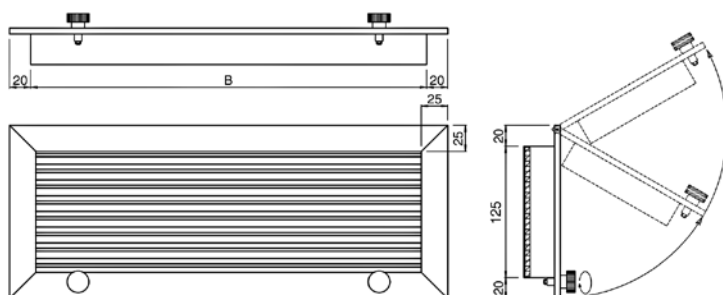
All the plenums
are supplied with spigots
for the connection of flexible ducts.

VERSION	YFCN-ECM
MODEL	CD

SIZE							
YFCN	TYPE	A	B	C	D	SPIGOTS	CODE
2	PMC - 2	430	107	218	216	N° 2	9066362
4	PMC - 3/4	645	166	218	313	N° 2	9066363
6	PMC - 5/6	860	160	218	270	N° 3	9066365
-	PMC - 4S	860	160	248	270	N° 3	9069222
7	PMC - 7	1075	190	218	347,5	N° 3	9066367
9	PMC - 8/9	1075	190	248	347,5	N° 3	9066368

GRAFP air inlet grid with filter

To be fitted to the FR 90° 90° inlet flange.
Made of anodized aluminium.

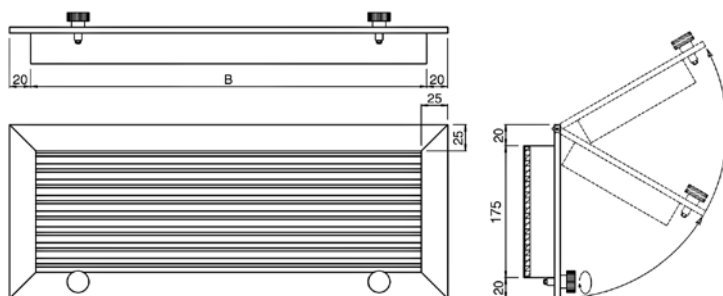


VERSION	YFCN-ECM
MODEL	CD

SIZE	TYPE	B	CODE
2	GRAFP - 2	375	9060770
4	GRAFP - 3/4	575	9060771
6	GRAFP - 5/6	775	9060772
7 - 9	GRAFP - 7/9	975	9060773

GRAFG air inlet grid with filter

To be fitted to the FRD straight inlet flange.
Made of anodized aluminium.



VERSION	YFCN-ECM
MODEL	CD

SIZE	TYPE	B	CODE
2	GRAFG - 2	375	9060774
4	GRAFG - 3/4	575	9060775
6	GRAFG - 5/6	775	9060776
7 - 9	GRAFG - 7/9	975	9060777

CHK Hotel fan kit

Hotel box for concealed installation for Carisma YFCN-ECM, CD model (frontal return and supply).

The new CHK kit is the best solution for all installations requiring a built-in fan coil where there is no other possibility of accessing the unit except from the air outlet side. The unit is particularly suitable for installation in hotel rooms, offices and homes.

The Kit consists of a box that can easily be installed in a false ceiling, inside which the fan coil is fitted using the special guides. For simply remove the front outlet and access the air filter as well as the electrical and hydraulic parts of the unit.

The air grid is divided into two zones, one for the air intake with horizontally adjustable fins and the other one for the air outlet with horizontally and vertically adjustable fins to ensure better air distribution and diffusion in the room.

The box structure is made of thick galvanised metal sheet.

The internal air flow sections are insulated with expanded polyethylene that prevents both condensation and energy loss towards the inside of the false ceiling.

The accessory includes the air filter, an anodised aluminium outlet with adjustable fins and a front wall frame.

The box structure is designed so that fan coils with hydraulic connections facing left or right can be installed. According to the configuration, it is in fact sufficient to secure the sliding guides on the panel that will be the upper one.



Only the following accessories can be used with the CHK Kit:

- VS simplified kit for 3 way valve for main and additional coil;
- ACTI extension condensate collection tray.

For the CHK Kit installation it must be specified that the fan coil hydraulic and electrical connections must be on the same side. (Code 9066805).

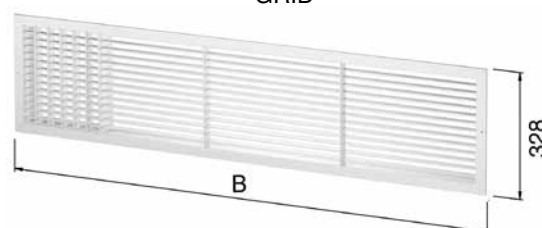
When ordering, it must be specified that the fan coil hydraulic and electrical connections must be on the same side.

Note: consider 20 Pa pressure drop.

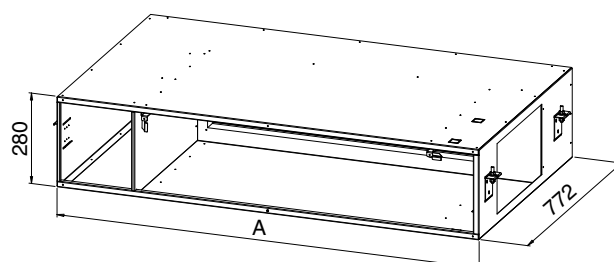
VERSION	YFCN-ECM
MODEL	CD

SIZE	TYPE	A	B	CODE
2	CHK 2	845	880	9066782
4	CHK 4	1060	1095	9066783
6	CHK 6	1318	1357	9066785
7	CHK 7	1610	1649	9066787

GRID



RECESSED PLENUM



BXS silencers plenum

Sound attenuator module

Made of galvanised steel metal sheet, lined internally with a reinforced glass wool mat on both sides with a black glass coating; the 50 mm and 30 kg/m³ density lining ensures high noise reduction with very low pressure drops.

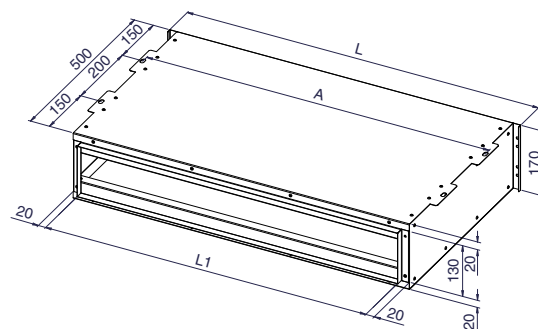
Sound attenuation levels

FREQUENCY	Hz	125	250	500	1000	2000	4000	8000
SOUND ATTENUATION	dB	2.5	5.0	11.5	14.0	13.5	12.0	11.0

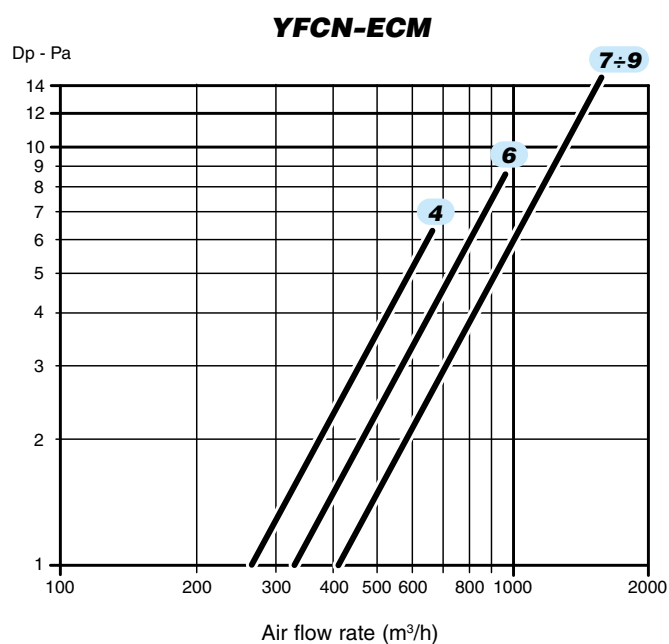
Note: the silencer plenum reduces the sound levels only on the supply side; the sound levels on the return side are not affected by the silencer.

VERSION	YFCN-ECM
MODEL	CD

SIZE	TYPE	L	L1	A	CODE
4	BXS-A	675	597	653	9069081
6	BXS-B	890	812	868	9069082
7 ÷ 9	BXS-C	1105	1027	1083	9069083



Silencer plenum pressure drop



YFCN-ECM configuration

For this fan coil configuration, the 1-10 Vdc signal, which controls the inverter, must be supplied by a controller with the following signal specifications:

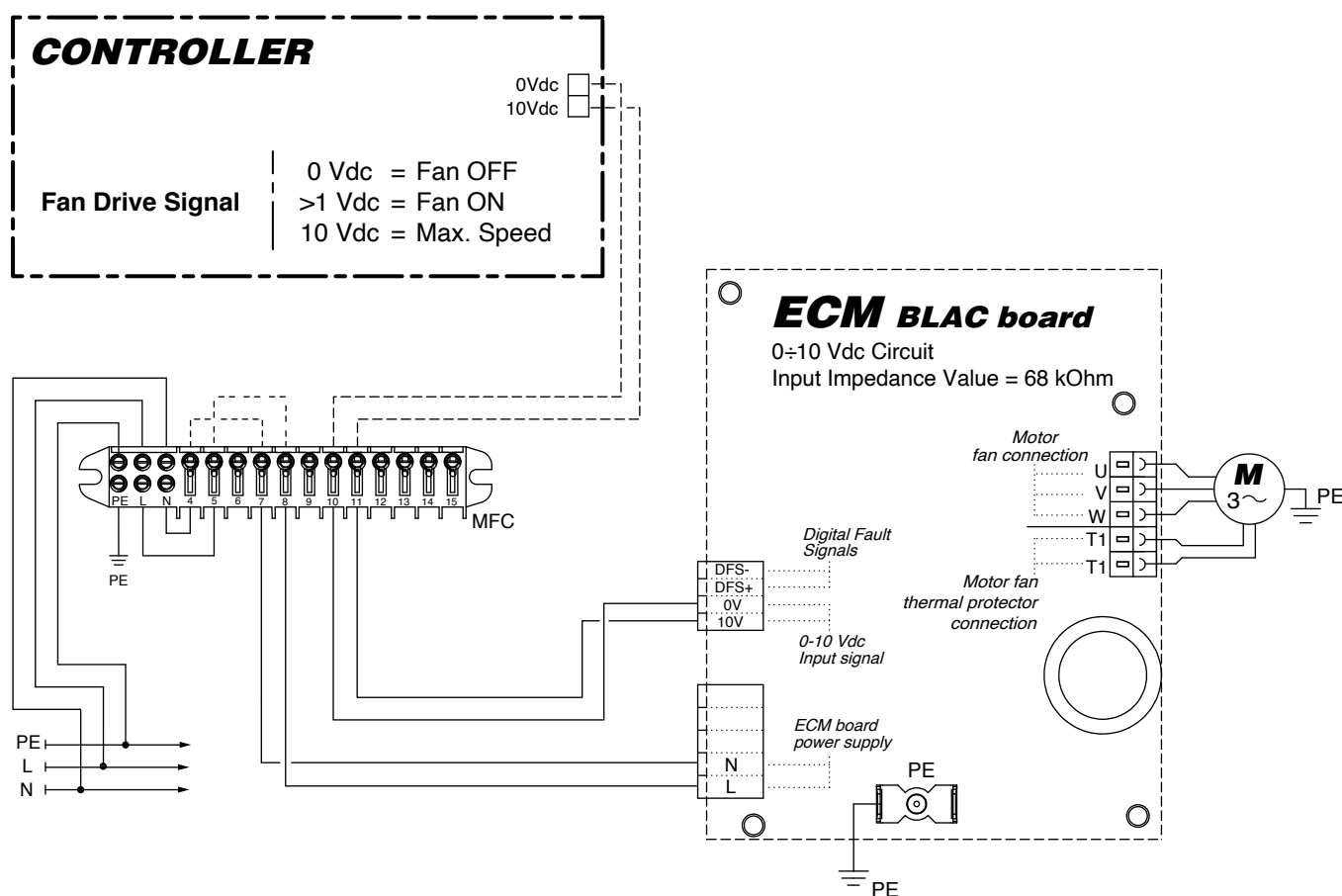
Fan Drive Signal

- 0 Vdc = Fan OFF
- >1 Vdc = Fan ON
- 10 Vdc = Max. Speed

ECM Blac Board

0÷10 Vdc Circuit Input Impedance Value = 68 kOhm

YFCN-ECM electric wiring diagram



LEGEND:

BLAC = Inverter circuit board **M** = Electronic motor **CONTROLLER** = Controller

IDENTIFICATION	CODE
JWC-AU	9066632K



Dimensions: 135x86x24 mm

The control must always be connected with UPM-AU power unit (fitted on the unit) or with UP-AU power unit (not fitted on the unit).

- ON-OFF switch.
- Manual, automatic or centralized Summer/Winter switch.
- Manual or automatic 3 speed progressive switch.
- Summer/Winter/Fan/Auto mode switch.
- Electric heater activation switch.
- Electronic room thermostat for fan control (ON-OFF).
- Electronic room thermostat for valve control (ON-OFF).
- Simultaneous thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat (NTC).
- It allows to control the water valves (ON-OFF) and the electric heater managed as main heating element or as an integration element.
- Energy saving switch and presence of a LED signal when the thermostat is on.

N.B.: with 4 pipe installations and continuous chilled and hot water supply, it allows the automatic summer winter change-over in accordance to the room temperature (-1 °C = Winter, +1 °C = Summer, Neutral Zone 2 °C).

Control power absorption: see the UP-AU power unit

IDENTIFICATION	CODE
T-MB	9066631E



Dimensions: 110x72x25 mm

The control must always be connected with UPM-AU power unit (fitted on the unit) or with UP-AU power unit (not fitted on the unit).

Wall control with display that allows controlling one or more units in Master/Slave mode. The control is equipped with internal sensor to detect the room temperature, which can be defined as a priority compared to the return air sensor on the fan coil.

The T-MB control features the following functions:

- Switch the unit ON and OFF and temperature set.
- Manual, centralized or automatic Summer/Winter switch.
- Set the fan speed (low, medium, high or autofan).
- Set the operation mode (fan only, cooling, heating; auto for 4 pipe systems with mode selection depending on the air temperature).
- Possibility of use of the low temperature cut-out thermostat NTC mounted on the UP-AU power unit.
- It allows to control the water valves (ON-OFF) and the electric heater managed as main heating element or as an integration element.
- Time setting and Weekly ON/OFF program.

Control power absorption: see the UP-AU power unit

IDENTIFICATION	CODE
WM-503-AC-EC	9066686E



Dimensions: 68x52.2x
(wall protrusion=12) mm

The control must always be connected with UP-503-AC -EC power unit (separately delivered).

WM-503-AC -EC control allows to regulate the room temperature in both, the heating and the cooling modes, it can control one or two valves and fan coil units with asynchronous motor or fan coil units with EC electronic motors.

The WM-503-AC -EC control for fan coils with valves, is designed to be installed in a 503 wall box. Easy to use, it is equipped with a large and efficient backlit LC D screen with 4 keys.

The kit lets the thermostat be suitable for all plaques on the market (28 types) and it is composed by:

- coloured covers (white, silver and anthracite), frames and adaptators.
- Manual or automatic 3 speed motor control for asynchronous versions
- EC motor control with 0-10V signal for the ECM versions
- Power supply by UP-503-AC -EC by means of the two-core cable
- Input for return air/water/change over probe
- ON/OFF / SET Reduction / remote SUMMER-WINTER digital input
- User interface with LC D display with adjustable backlight and 4 keys
- 2 and 4 pipe fan coil units control
- Button lock controller

Control power absorption: see the power unit UP-503-AC -EC

IDENTIFICATION	CODE
WM-S-ECM	9066644



Dimensions: 132x87x23,6 mm

0-10V control with display designed to be mounted on the wall or to be installed on a 503 wall box.

- ON-OFF switch.
- Manual 3 speed switch or automatic continuous speed control.
- Manual Summer/Winter switch.
- Summer/Winter/Fan/Auto mode switch.
- Electronic room thermostat for fan control (ON-OFF).
- Electronic room thermostat for valve control (ON-OFF).
- Simultaneous thermostatic control of the valves and fan.
- It allows to control the low temperature cut-out thermostat (NTC).

Control power absorption: 1,2 VA

DESCRIPTION	IDENTIFICATION	CODE
Power unit for JWC-AU and T-MB remote control (fitted on the unit)	UPM-AU	9066641
Power unit for JWC-AU and T-MB remote control (not fitted on the unit)	UP-AU	9066640



Power unit to be installed on the fan coil (fan coil interface).

- It controls the fan and the valves of the fan coil.
- It is connected to the electric supply and receives the information required from the control.
- It allows to control up to 10 units (1 master and 9 slaves).
- Max. Network length: 100 meters.
- Max cable length between control and first connected power unit: 20 meters.

Control power absorption: 2,3 VA

DESCRIPTION	IDENTIFICATION	CODE
Power unit for WM-503-AC-EC control	UP-503-AC-EC	9066687



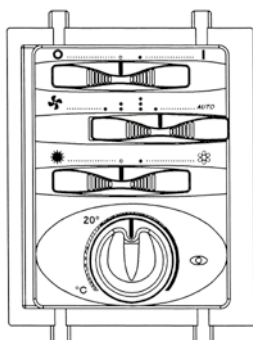
Power unit to be installed on the fan coil (fan coil interface).

- It receives from the WM-503-AC-EC remote control the information required to control the valves and the motor.
- It allows to control up to 5 units (1 master and 4 slaves).
- Must be connected to the electric supply.
- Max. Network length: 100 meters.
- Max cable length between control and first connected power unit: 20 meters.

Power unit absorption: 2 VA

Electronic control to be fitted - YFCN-ECM version

IDENTIFICATION	CODE
TMV-T-ECM	9060141



- ON-OFF switch.
- Manual 3 speed switch or automatic continuous speed control.
- Manual Summer/Winter switch.
- Continuous speed control based on the difference between ambient temperature and Set temperature (speed switch in Auto position).
- Electronic room thermostat for fan or valve control (ON-OFF).
- Simultaneous thermostatic control of the valves and fan.
- It allows to control low temperature cut-out (NTC).

Control power absorption: 1,5 VA

Electronic control accessories

NTC low temperature cut-out thermostat

To be fitted between the coil fins; when connecting the control, the NTC probe cable must be separated from the power supply wires.

To be used with the **TMV-T-ECM**, **WM-S-ECM** controls and the **UP-AU** power unit.

It stops the fan when the water temperature is lower than 28 °C and it starts the fan when is higher than 33 °C.

To use as:

- T1 function for the return air control.
- T2 function which controls the summer/winter switch.
- T3 function as low temperature cut-out thermostat.

VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD
CODE	3021090



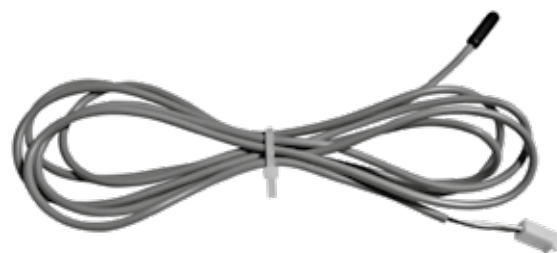
T2 sensor to be placed on the water supply pipe upstream 3 way valves (not to be used with 2 way valve).

The T2 sensor must be used as described below:

- Change-Over for the automatic switch of the operating mode.
If water temperature is lower than 20 °C, cooling mode is set; on the other hand, if water temperature exceeds 30 °C, heating mode is set.
- It can be used on units with electric heater and hot water supply. The T2 priority probe activates the electric heater or water valve, depending on the water temperature detected. If water temperature exceeds 34 °C, the water valve ON-OFF control is activated; on the other hand, if water temperature is lower than 30 °C, the electric heater is activated.

To be used with the **UP-AU** power unit.

VERSION	YFCN-ECM
MODEL	VC - HC - VCB - CD
CODE	9025310



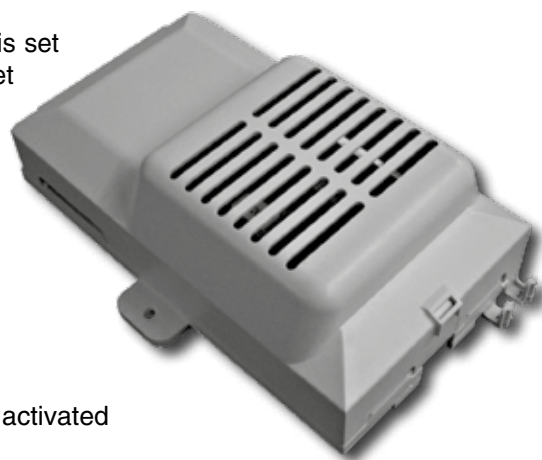
All the **YFCN-ECM** units can be supplied with a wide range of controls, which allows managing one single unit or several units by using the Modbus RTU - RS 485 communication protocol. Units can be managed according to the Master/Slave logic (up to 20 units) or by supervisory components. The system consists in a **MB** board and a series of controls, such as the **T-MB** control, the **RT03** infra-red remote control, the **PSM-DI** multi-function control and the **NET** supervisory program.

MB electronic board

DESCRIPTION	IDENTIFICATION	CODE
<i>MB electronic board fitted on the unit</i>	<i>MB-ECM-M</i>	<i>9066334</i>
<i>MB electronic board supplied with separate packaging</i>	<i>MB-ECM-S</i>	<i>9066335</i>

The **MB** electronic board, to be mounted on the fan coil internal unit, is set to carry out different functions and adjustment modes, in order to meet the installation requirements. These modes are selected by setting the configuration dip switches on the board.

- 2/4 pipe system.
- Fan ON/OFF thermostatic control.
- Valve ON/OFF thermostatic control and continuous ventilation.
- Valve and simultaneous ventilation ON/OFF thermostatic control.
- Fan operation control depending on the coil temperature (cut-out T3 probe fitted), which can be activated only in heating mode or heating and cooling mode.
- Automatic switch of the operating mode by means of T2 water probe (optional) applied on the 2 pipe system.
- Seasonal switch by means of remote contact.
- ON/OFF of the fan coil by means of the remote contact (window or clock contact).
- Electric heater control.



By activating the cut-out T3 probe function, the fan is stopped in winter when the coil temperature is lower than 32 °C and started when the temperature reaches 36 °C. In summer mode, the fan stops when the temperature inside the coil exceeds 22 °C and starts when it drops below 18 °C.

The following connections are located on the power board:

- Receiver for infra-red remote control.
- T-MB control.
- RS 485 serial connection to manage several fan coils in Master/Slave configuration or to create a supervisory network.

NTC sensor included for T1 function (return air control).

NTC sensor included for T3 function (low temperature cut-out thermostat).

NTC sensor (option) for T2 function (summer/winter switch).

T-MB control

DESCRIPTION	IDENTIFICATION	CODE
Wall control (to be used with MB board only)	T-MB	9066331E
Control fitted on the unit, for VC / VCB models (to be used with MB board only) - YFCN-ECM only	T-MB-LM	9066646
Control supplied with separate packaging, for VC / VCB models (to be used with MB board only) - YFCN-ECM only	T-MB-LS	9066645
Control fitted on the unit, for VC / VCB models (to be used with UP-AU power unit only) - YFCN-ECM only	T-MB-M-UP	9066648
Control supplied with separate packaging, for VC / VCB models (to be used with UP-AU power unit only) - YFCN-ECM only	T-MB-S-UP	9066647

Control with display that allows controlling one or more units in Master/Slave mode. The control is equipped with internal sensor to detect the room temperature, which can be defined as a priority compared to the return air sensor on the fan coil.

The **T-MB** control features the following functions:

- Switch the appliance ON and OFF.
- Temperature set.
- Modify the set point (when used as a +/- 3° variation of the set point configured from NET supervisory program or PSM-DI).
- Set the fan speed (low, medium, high or autofan).
- Set the operation mode (fan only, cooling, heating; auto for 4 pipe systems with mode selection depending on the air temperature).
- Time setting.
- Weekly ON/OFF program.
- Display and change of the fan coil operation parameters.



Dimensions: 110x72x25 mm

RT03 infra-red remote control

DESCRIPTION	IDENTIFICATION	CODE
RT03 infra-red remote control with fitted receiver, for VC-HC-VCB models (to be used with MB board only) - YFCN-ECM only	RM-RT03	9066336
RT03 infra-red remote control with receiver supplied with separate packaging (to be used with MB board only)	RS-RT03	9066337
RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)	RT03	3021203
Receiver for RT03 infra-red remote control fitted on the unit, for VC-HC-VCB models (to be used with MB board only) - YFCN-ECM only	RM	9066339
Receiver for RT03 infra-red remote control supplied with separate packaging (to be used with MB board only)	RS	9066338

The infra-red remote control allows setting by a remote position the fan coil operation parameters.

The **RT03** infra-red remote control features the following functions:

- Switch the appliance ON and OFF.
- Temperature set.
- Set the fan speed (low, medium, high or autofan).
- Set the operation mode (fan only, cooling, heating; auto for 4 pipe systems with mode selection depending on the air temperature).
- Time setting.
- 24 hours ON/OFF program.



INSTALLATION EXAMPLE
WITH INFRA-RED REMOTE CONTROL

A group of **YFCN-ECM** units with **MB** electronic board can be connected via a serial link and can consequently be managed at the same time by just one **T-MB** control or **RT03** infra-red remote control. Using the special jumper present on the **MB** board, one unit must be configured as the master, and all the others as slaves. It is clear that the remote control must be pointed at the receiver on the master unit. To avoid problems, it is recommended to install and connect the receiver only on the master unit.

With T-MB control

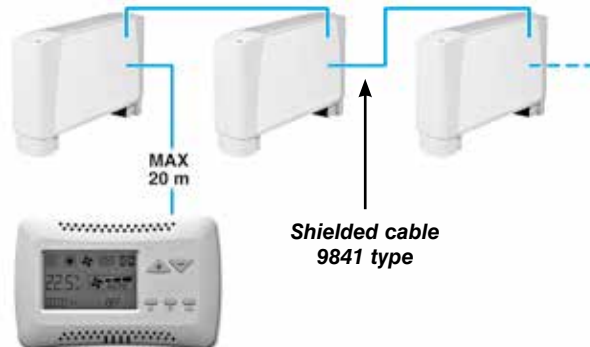
One control for each unit

(MAXIMUM LENGTH OF THE CONNECTION CABLE = 20 m)



One control for more units (20 units max.)

(MAXIMUM TOTAL LENGTH OF THE CONNECTION CABLE = 800 m)



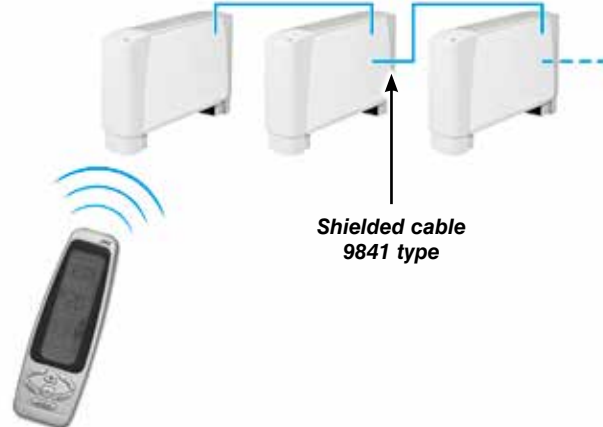
With RT03 infra-red remote control

One control for each unit



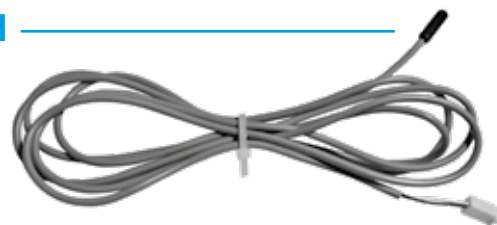
One control for more units (20 units max.)

(MAXIMUM TOTAL LENGTH OF THE CONNECTION CABLE = 800 m)



T2 accessory for units with MB electronic board

IDENTIFICATION	CODE
T2	9025310



The T2 sensor can be combined with MB boards to be placed on the water supply pipe upstream 3 way valves (not to be used with 2 way valve).

The T2 sensor must be used as described below:

- Change-Over for 2-pipe system for the automatic switch of the operating mode.
If water temperature is lower than 20 °C, cooling mode is set; on the other hand, if water temperature exceeds 30 °C, heating mode is set.
- It can be used on units with electric heater and hot water supply. The T2 priority probe activates the electric heater or water valve, depending on the water temperature detected. If water temperature exceeds 34 °C, the water valve ON-OFF control is activated; on the other hand, if water temperature is lower than 30 °C, the electric heater is activated.

PSM-DI multifunction control panel

DESCRIPTION	IDENTIFICATION	CODE
Multifunction control (to be used with MB board only)	PSM-DI	3021293

Another option available for the serial communication between the units is the possibility to connect up to 60 **YFCN-ECM** units in series and manage them with just one wall mounted **PSM-DI** controller. The wall mounted controller can be used to set the operating mode for each individual unit connected, display the operating conditions of each individual unit, and set the ON/OFF time sets for each day of the week (the program can be set for all the units and for a maximum of ten groups of units). If more than 60 units need to be connected, two or more controllers must be used. Each unit must have a MB board. The **PSM-DI** control is used to manage a series of fan coils, up to a maximum of 60 units (the maximum length of the RS 485 connection cable must not exceed 800 m), from one single control point.



The **PSM-DI** control communicates via a serial line with all the units connected, with the possibility of controlling them all together or individually. In fact, the unique address of each individual fan coil means that all the units can be called at the same time, or the individual unit called, to perform the following functions:

- display the current operating mode, the fan speed, the set point;
- display the room temperature measured on the individual unit;
- turn all the units ON and OFF at the same time or alternatively each unit individually;
- change the operating mode (fan only, heating, cooling, automatic changeover);
- change the set point;
- modify the values and operation parameters of the fan speed.

Each function can then be sent to all the units connected, or alternatively to each individual unit.

Different set points or operating modes can be set for each individual unit.

The **PSM-DI** panel can also be used for the time management of the units over the week. Four ON times and four OFF times can be set on the units for each day of the week. A different temperature set that will be considered as Operation set for all connected appliances, can be set for each event. If the temperature set is not entered for the individual event, it must be set during programming for each individual unit or for the entire network.

Units without receiver or with receiver can be connected within the network: the former can receive instructions only from the **PSM-DI** wall mounted panel; while the latter can receive information from both the wall mounted panel (**PSM-DI**) and infra-red remote control. Use the infra-red remote control to force ON mode of the individual unit, if ON/OFF daily time programming has been set. The unit will regain the settings from the **PSM-DI** panel during execution of successive start-up program.

The PSM-DI panel cannot be used together with the NET management program (see next page).

Notes:

- set the Dip Switches of each fan coil as illustrated in the remote control installation manual, based on the required solutions.
- it is possible to connect only one single SIOS board per each PSM-DI control panel.
- about "Priority pump function": when just one unit calls for, the relay RL1 on the SIOS board is automatically activated to connect a hot water pump.
- the RS 485 network's overall length must not exceed 700/800 metres.

NET program for managing a network of MB fan coils

DESCRIPTION	IDENTIFICATION	CODE
Hardware/software supervisory system (to be used with YFCN-ECM-MB control board only)	NET	9079118



NET is a centralised control system for networks of MB fan coils, based on software that runs on linux™ operating system (the program is provided pre- installed on a Pc) and it works in a "stand alone" way, as an ordinary computer, so that it can be connected to a monitor, to a mouse and to a keyboard. By connecting an ethernet cable is instead possible to work at a distance and visualize the entire program setting-up through whatever browsers. the **NET** software offers a practical and economical solution for managing the units, with the simple click of the mouse.

The main characteristics are:

- simplicity of use
- an extremely complete and functional weekly program
- possibility to access the historical operating data for each individual unit connected
- possibility of data saving on USB key
- visualization of the saved configuration on a new Asus Pc

The program exploits all the potentiality of our units with fitted MB board.

The program can be used to:

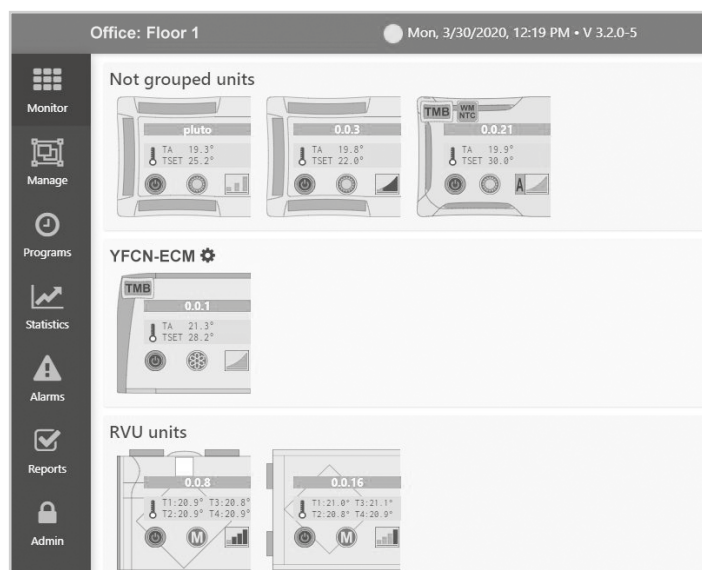
- create uniform groups (groups of units on individual floors, in offices or rooms)
- save weekly programs configured for different types of operation (summer, winter, mid seasons, closing periods etc.); these can then be recalled and activated with a simple click of the mouse. Weekly on/off cycles can be set for individual units or groups of units
- set the operating conditions for each individual unit or groups of units (operating mode, fan speed, temperature setting)
- set the set point limits for each individual unit or groups of units
- switch each individual unit or groups of units On or OFF.

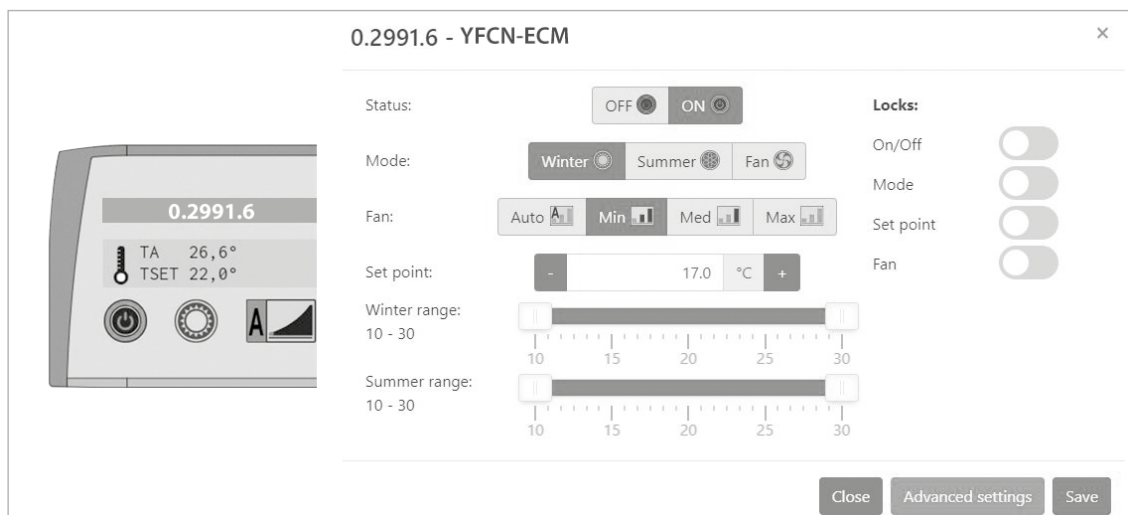
Graphical pages

The main program screen can display and interact with the entire network of units. An individual unit, a group of units or the entire network can be called so as to make modifications to the operating mode and the set point.

The user can then check the operating status of each individual unit, read the room temperature, the coil temperature and the operating status of the condensate drain pump or any alarms.

The “**Monitoring**” Screen shows the units that are connected to the network and scanned by the program.





The icon of the terminal unit provides the following information:

- unit name (0.2991.6)
- set temperature (SETP)
- room temperature (AT)
- unit status:



ON (green)



OFF (red)

- mode:



summer



winter



auto



fan only

- fan speed:



low



medium

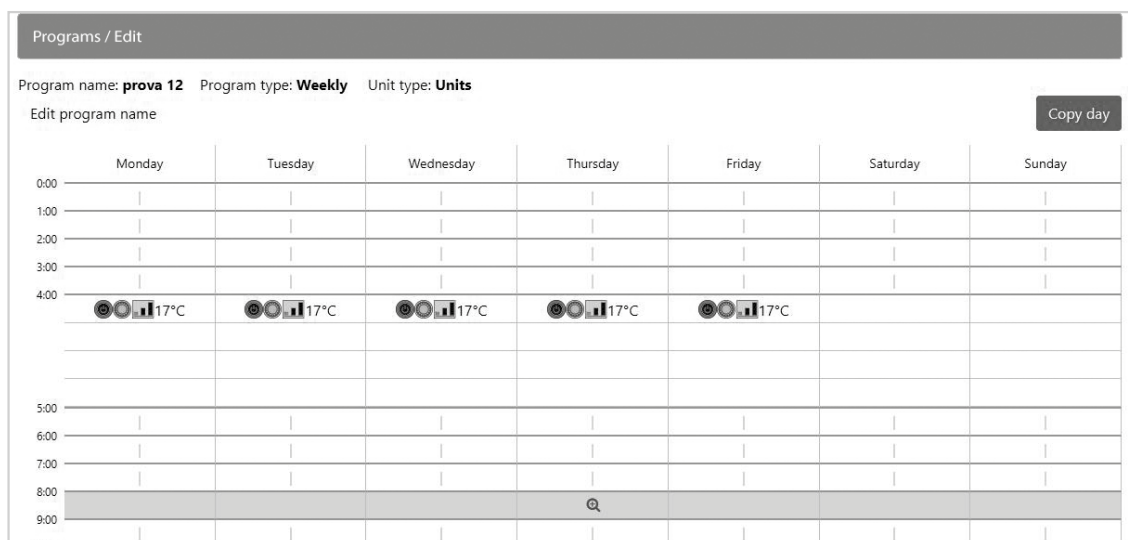


high



auto fan

The “**Programs**” Screen, can be used to set the unit operating parameters for each day of the week. Several weekly programs can be set. Time bands are available for each day of the week. The time and the type of operation to be performed by the unit can be set for each band. The time and the operating parameters can then be displayed before being sent to the unit and implemented.



Every time that the reading of the set up Dip Switches results not easy (as for example by the false ceiling installations), it is always possible to display them directly through the NET program.

0.2991.6 - YFCN-ECM

Unit status Configuration Parameters

ON

Dip	OFF option	ON option
1: OFF	2 pipe units	4 pipe units
2: OFF	Thermal power station with valves	Thermal power station with Fan
3: OFF	T3 disabled	T3 enabled
4: OFF	T3 only Winter when enabled	T3 Winter and Summer when enabled
5: OFF	Continuous ventilation	Simultaneous ventilation of valves
6: OFF	Unit without electrical heater	Resistance-coils Management
7: OFF	T2 as CH Change-Over (resistance phase II)	Resistance-coils with T2
8: OFF	RL7 (D0-D0) according to the state of the controller	RL7 (D0-D0) according to the pump
9: OFF	CA = Remote ON/OFF	CA = Remote Summer/Winter
10: OFF	Master	Slave

0.2991.6 - YFCN-ECM

Unit status Configuration Parameters

T3 fan on heating	- 34.0 °C +	T3 fan on cooling	- 22.0 °C +
T3 fan control hysteresis	- 5.0 °C +	Fan maximum off time for antistratification	- 10 min. +
Antistratification on time	- 60 sec. +	Post-ventilation time	- 180 sec. +
ECM voltage MIN speed	- 1.0 V +	ECM voltage MED speed	- 5.0 V +
ECM voltage MAX speed	- 10.0 V +	Pump, delay time	- 150 sec. +

« 1 2 3 4 »

Close Set TMB time Save

In addition to the alarm set on the "Alarms" Screen, it is possible to send the ON-OFF alarm notification via E-mail and sms.

Plant: Office

Alarms history Alarms notifications settings

Event type eMail

Unit with alarm [any]	On activate sent	never	Send on deactivate	No
Unit with condensations alarm	On activate sent	never	Send on deactivate	No
Unit with probe alarm	On activate sent	never	Send on deactivate	No
Unit lost	On activate sent	never	Send on deactivate	No
0.2991.1.1	On activate sent	never	Send on deactivate	No

Save

RS 485 serial connection cable

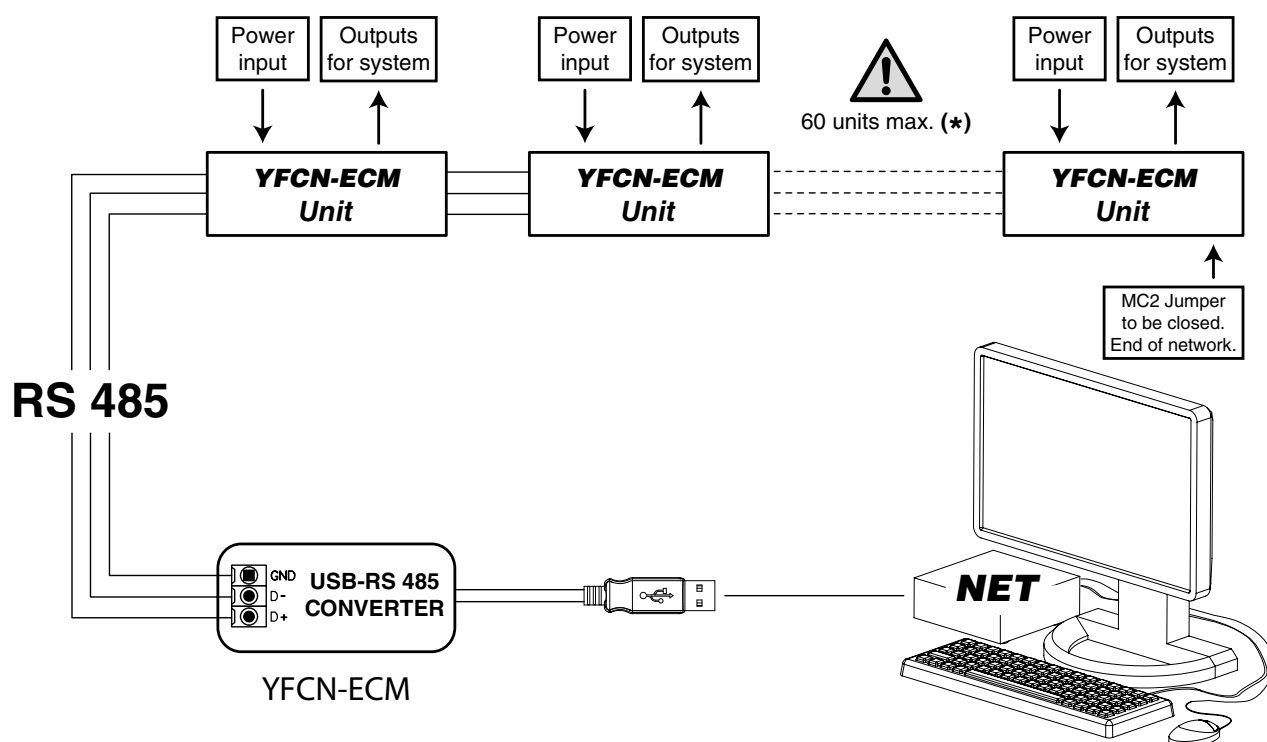
Shielded cable to be used:

9841, RS-485, 1x2x24 AWG SFTP, 120 Ohm



PC NET Software

Connection of a **YFCN-ECM** network with YFCN-ECM-MB control board



(*) In the event of more than 60 units, add one or more Router-S (see below).

PSM-DI and NET accessories

IDENTIFICATION	CODE
SIOS	3021292

SIOS is a board equipped with 8 relays with potential free contact to control the activation or deactivation of remote electric utilities. Moreover, the board has 8 digital inlets to display the actuators or external consents, such as motor or other.

The SIOS boards can be connected:

- inside a network managed by NET
- to a PSM-DI panel (one SIOS for each PSM-DI panel)



IDENTIFICATION	CODE
Router-S	3021290

The Router-S is an electronic board that allows to control several units inside a network managed by NET (default) or within a sub-network managed by BMS systems, that are not provided by York (it is necessary to operate on a Dip Switch on the board).

Managed by NET

The Router-S in the standard version is an electronic board that:

- allows creating networks with more than 60 units (minimum 2 Router-S are required) or to divide the network (per floor, building, etc.);
- allows creating a Master/Slave sub-network to be controlled as an independent group.

The number of Router-S to be used is: - up to 60 units: no Router-S

- from 61 to 120 units: 2 Router-S

- every 60 subsequent units: 1 additional Router-S



Managed by BMS Systems which are not provided by York

The Router-S becomes an electronic board to use with BMS systems not supplied by York, only after having set the Dip Switch on the board and so creating a Master/Slave sub-network to be controlled as an independent group.

The number of Router-S to use is: - maximum 14 Router-S

- maximum 15 Fan Coils per Router-S

