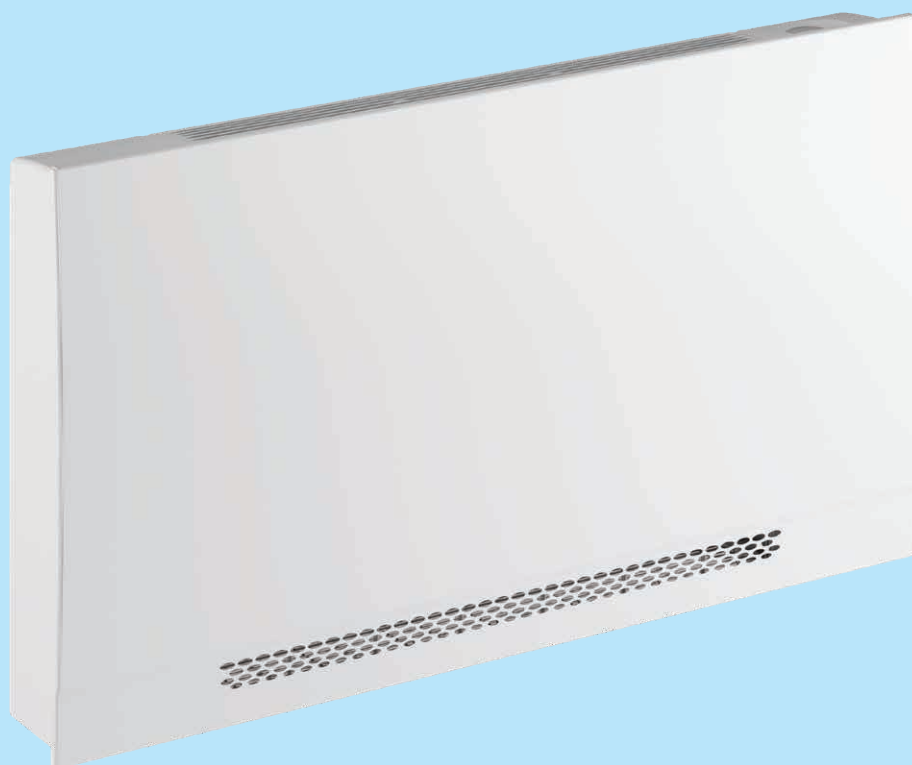




Residential Fan Coil Unit

YFTS-ECM

TECHNICAL MANUAL

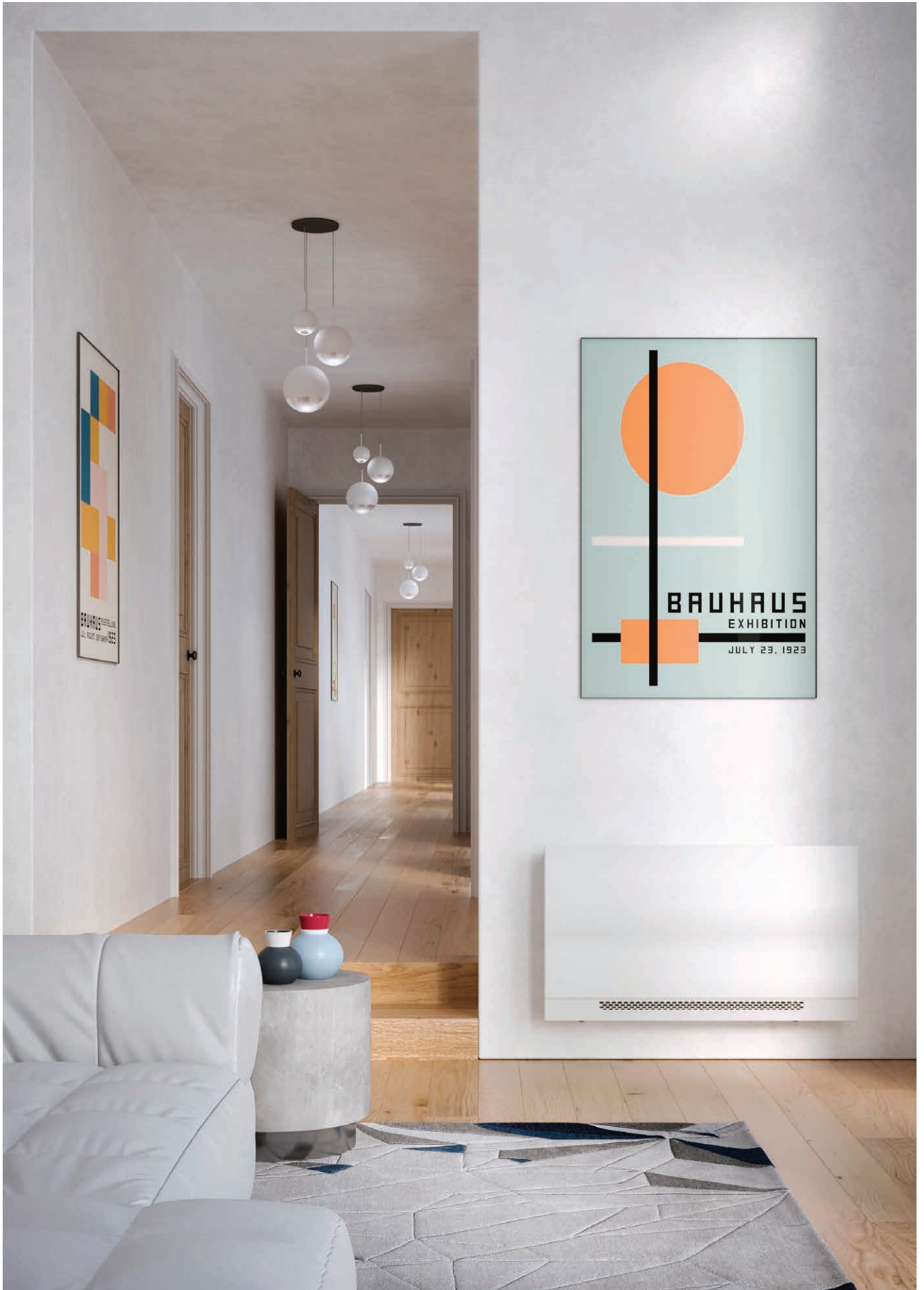


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YFTS-ECM

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INTRODUCTION

The YFTS-ECM fan coil unit combines a reduced dimension with a modern aesthetic, while maintaining great performances in terms of sound and consumption.

YFTS-ECM includes the VC version for wall installation and the CDV version for concealed installation; the VC version combines a reduced dimension, until 126 mm depth only, with a modern aesthetic that perfectly suits with any kind of furnishing, while maintaining great performances in terms of sound and consumption.

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

The latest synchronous inverter driven BLAC brushless and sensorless electronic motor with permanent magnets is controlled by an Inverter board designed and developed in Italy.

The electronic board is directly fitted on the motor.

The air flow can be varied continuously with a 1-10 V signal.

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 a low speed, makes possible a great reduction in electric consumption with absorption values, under normal operating conditions, that are no greater than 5 Watt.

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

Version with radiant panel

During the winter operation by selecting this operating mode on the CB-Touch / CB-Touch EASY control, the clever management of the radiant panel, of the fan and of the fan coil hot water valve is activated in order to reduce the ventilation always to the minimum necessary. Under any steady room condition, the fan is OFF and the fan coil heats only into the radiant mode. In this version, thanks to this operation, the YFTS-ECM-VC-R-CB-T / YFTS-ECM-VC-R-CB-TES is particularly suitable for the night mode.



VERSION AND MAIN COMPONENTS

Range includes 5 air flow rates (from 75 to 645 m³/h) and 2 versions (standard with casing and for concealed installation), each one equipped with 2 row coil.

The standard versions with the casing are available in the following combinations:

- without control (YFTS-ECM-VC)
- with CB-Touch EASY control (YFTS-ECM-VC-CB-TES)
- with CB-Touch control (YFTS-ECM-VC-CB-T)

The CB-Touch version is supplied with the UP-Touch power unit fitted on the unit.

The YFTS-ECM range is perfect to meet all air-conditioning requirements of residential and work environments like offices, shops, restaurants and hotel rooms.

Outer casing

Made of galvanized steel and with plastic outer casing. The air diffuser, that is placed over the top of the unit, is of adjustable type.

White RAL 9003.

Inner casing

Made of 1 mm galvanized steel, a rear panel and two lateral sides insulated with 3 mm polyolefin (PO) foam (B-s2-d0 EN 13501-1).

Filter

Polypropylene cellular fabric regenerating filter.

The filter frame, made of synthetic material, is inserted into special plastic sliding guides fastened to the internal structure for easy insertion and removal of the filter.

Fan assembly

Made of plastic tangential fan with anti-vibration fins.

The fan hub, dynamically and statically balanced, is directly secured onto the motor shaft.

Electronic motor

Electronic motor with 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 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 Ø 1/2 inch BSP internal connections.

The coil has Ø 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.

Flow and return pipe connections are situated at the same end on the left side looking at the unit. On request we can deliver the unit with the connections on the right end side: this must be specified on the order as this operation can not be carried out on site during installation.

Radiant panel (YFTS-ECM-VC-R-CB-T / YFTS-ECM-VC-R-CB-TES version)

The casing front panel is equipped with electric heating panel at low energy consumption, that allows to heat the room successfully by reducing the fan operation, thanks to the irradiation contribution.

Valves

The versions without valves or with mounted valves are available for all sizes.

The available valves are:

- 2 way
- 3 way

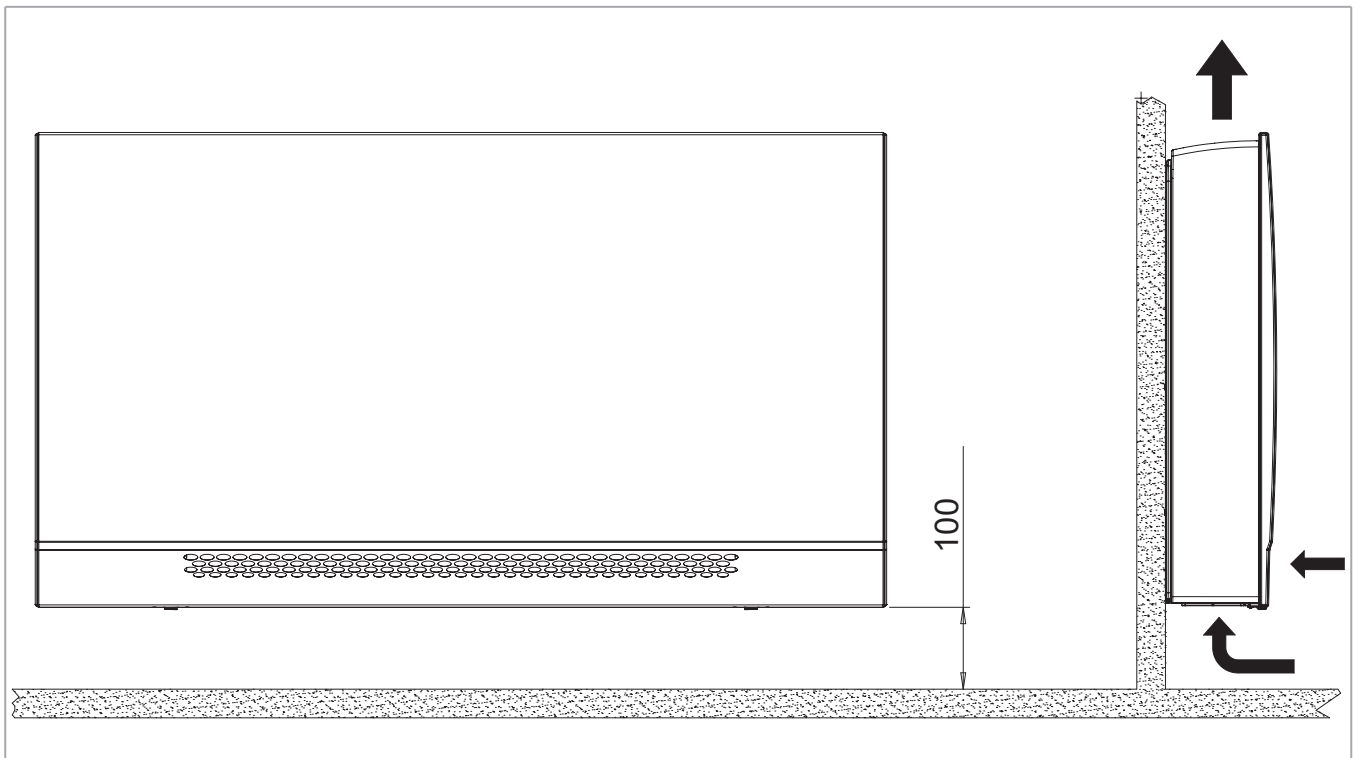
The valves can be ordered separately and easily installed on the basic units without valves.

Condensate collection tray

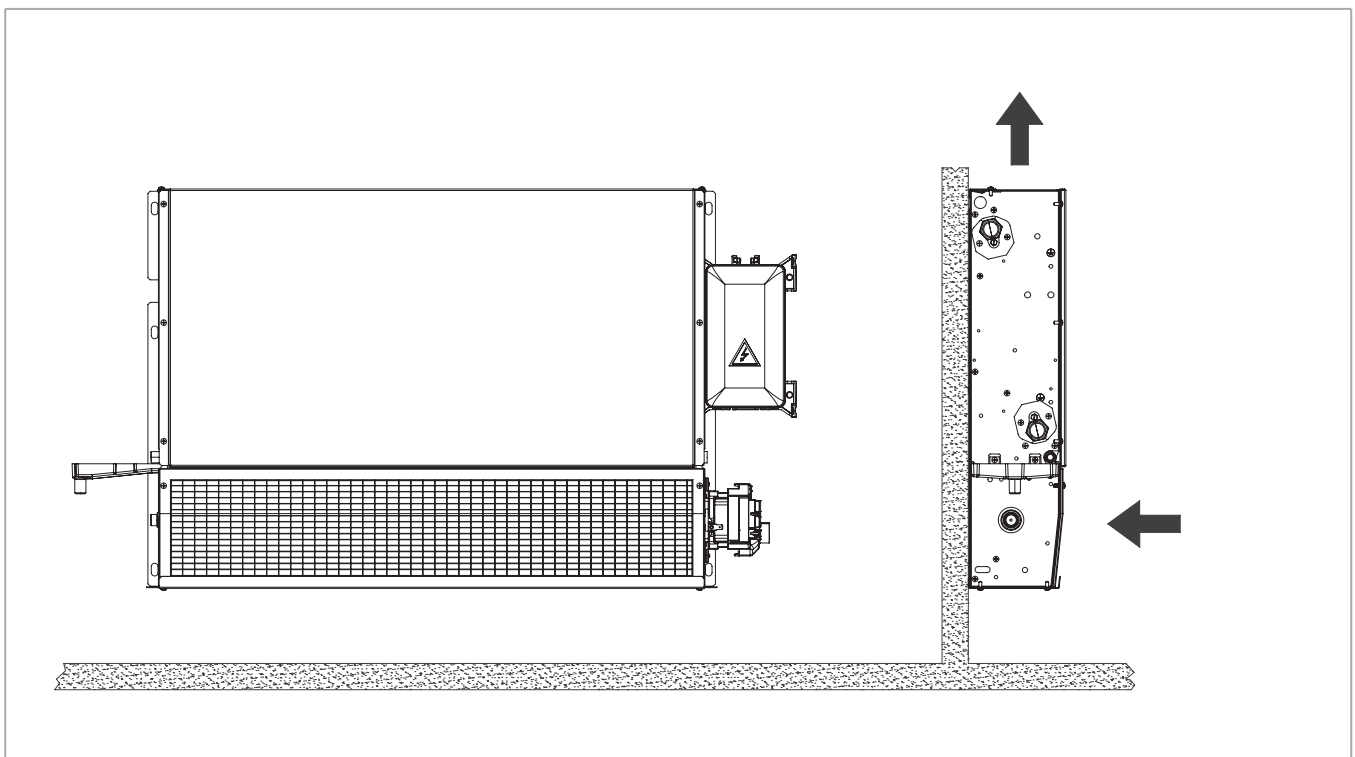
Made of plastic (ABS UL94 HB) and fixed to the internal structure. The outside diameter of the condensate discharge pipe is Ø 15 mm.

VERSIONS

Standard version with casing - VC / VC-R



Version for concealed installation - CDV



MAIN PERFORMANCES AND TECHNICAL CHARACTERISTICS

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		YFTS-ECM 10						YFTS-ECM 20						YFTS-ECM 30					
Inverter power		1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10
			MIN		MED		MAX		MIN		MED		MAX		MIN		MED		MAX
Air flow	m ³ /h	75	90	110	130	170	205	125	145	175	205	255	305	190	225	270	315	395	470
Cooling total emission (E)	kW	0,40	0,48	0,58	0,66	0,80	0,92	0,67	0,83	1,01	1,15	1,39	1,62	0,92	1,08	1,56	1,91	2,30	2,61
Cooling sensible emission (E)	kW	0,30	0,36	0,44	0,52	0,64	0,75	0,50	0,62	0,76	0,88	1,08	1,28	0,67	0,79	1,15	1,41	1,72	1,99
Heating emission (E)	kW	0,55	0,60	0,68	0,78	0,96	1,10	0,97	1,01	1,16	1,32	1,57	1,81	1,52	1,62	1,85	2,10	2,53	2,90
Dp Cooling (E)	kPa	4,9	6,0	7,5	9,1	12,0	14,7	3,1	3,6	4,3	4,9	6,1	7,4	4,5	5,4	8,6	11,5	15,2	18,6
Dp Heating (E)	kPa	6,1	6,7	8,0	9,6	13,0	16,2	3,7	3,9	4,4	5,0	6,1	7,3	7,1	7,7	9,2	11,0	14,6	18,2
Fan (E)	W	3,2	3,5	4,2	5,2	7,4	10,3	3,7	4,0	4,9	6,3	9,5	14,0	4,1	4,8	6,3	8,6	14,1	21,6
Sound power (Lw) (E)	dB(A)	31	33	36	40	45	50	30	33	38	42	47	52	32	34	39	43	47	53
Sound pressure (Lp) ⁽¹⁾	dB(A)	22	24	27	31	36	41	21	24	29	33	38	43	23	25	30	34	38	44

MODEL		YFTS-ECM 40						YFTS-ECM 50					
Inverter power		1	2	3,5	5	7,5	10	1	2	3,5	5	7,5	10
			MIN		MED		MAX		MIN		MED		MAX
Air flow	m ³ /h	220	260	320	380	480	575	255	300	365	430	535	645
Cooling total emission (E)	kW	1,14	1,45	2,06	2,50	2,97	3,36	1,44	1,95	2,55	2,92	3,37	3,81
Cooling sensible emission (E)	kW	0,82	1,05	1,48	1,80	2,17	2,49	1,04	1,40	1,82	2,10	2,47	2,83
Heating emission (E)	kW	1,79	1,91	2,23	2,58	3,13	3,62	2,19	2,25	2,61	3,00	3,60	4,20
Dp Cooling (E)	kPa	7,3	10,2	17,3	23,7	31,7	39,1	4,6	6,4	9,1	11,2	13,9	16,9
Dp Heating (E)	kPa	11,7	12,9	16,3	20,6	28,3	36,2	6,4	6,6	8,0	9,7	12,8	16,2
Fan (E)	W	4,7	5,4	7,2	9,9	16,4	25,4	5,3	6,1	8,2	11,4	19,0	29,5
Sound power (Lw) (E)	dB(A)	33	37	41	45	51	55	34	38	42	46	51	55
Sound pressure (Lp) ⁽¹⁾	dB(A)	24	28	32	36	42	46	25	29	33	37	42	46

(E) Eurovent certified performance.

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

COOLING EMISSION

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

Model	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
YFETS-ECM 10	10	205	0,99	0,73	172	16,6	0,88	0,70	154	13,9	0,69	0,66	120	9,6	0,53	0,53	93	6,7
	7,5	170	0,87	0,63	151	13,5	0,78	0,60	135	11,4	0,60	0,56	105	7,9	0,46	0,46	80	5,6
	5	130	0,72	0,51	124	10,1	0,64	0,48	111	8,6	0,50	0,45	86	6,2	0,38	0,38	65	4,5
	3,5	110	0,63	0,44	108	8,3	0,56	0,42	97	7,2	0,43	0,38	75	5,2	0,33	0,33	57	3,9
	2	90	0,52	0,36	90	6,6	0,47	0,34	81	5,8	0,36	0,31	63	4,3	0,27	0,27	47	3,4
	1	75	0,44	0,30	75	5,3	0,39	0,28	68	4,7	0,30	0,26	53	3,7	0,23	0,23	40	3,0
YFETS-ECM 20	10	305	1,76	1,26	306	8,3	1,57	1,20	273	7,1	1,21	1,09	211	5,2	0,91	0,91	160	3,9
	7,5	255	1,51	1,06	261	6,7	1,34	1,01	233	5,8	1,04	0,92	180	4,4	0,78	0,78	136	3,4
	5	205	1,24	0,87	215	5,3	1,11	0,82	192	4,7	0,86	0,75	149	3,7	0,64	0,64	112	3,0
	3,5	175	1,09	0,75	188	4,6	0,97	0,71	169	4,1	0,75	0,64	130	3,3	0,56	0,56	97	2,8
	2	145	0,90	0,62	155	3,8	0,81	0,58	139	3,5	0,62	0,53	107	2,9	0,46	0,46	80	2,6
	1	125	0,72	0,50	124	3,2	0,65	0,47	112	3,0	0,50	0,43	87	2,6	0,38	0,38	66	2,4
YFETS-ECM 30	10	470	2,81	1,97	488	21,0	2,53	1,86	438	17,6	1,96	1,70	341	11,9	1,48	1,48	259	7,9
	7,5	395	2,47	1,71	428	17,1	2,23	1,61	385	14,4	1,73	1,46	300	9,8	1,30	1,30	226	6,7
	5	315	2,05	1,40	355	12,7	1,86	1,32	321	10,9	1,44	1,19	248	7,6	1,07	1,07	186	5,3
	3,5	270	1,68	1,14	290	9,5	1,51	1,08	262	8,2	1,18	0,97	204	5,9	0,89	0,89	153	4,3
	2	225	1,16	0,79	201	5,8	1,05	0,75	181	5,2	0,82	0,68	142	4,0	0,63	0,63	109	3,2
	1	190	0,99	0,67	171	4,9	0,89	0,63	154	4,4	0,70	0,57	121	3,5	0,53	0,53	92	2,9
YFETS-ECM 40	10	575	3,60	2,47	624	44,1	3,26	2,33	565	37,0	2,54	2,12	441	24,2	1,91	1,91	333	15,3
	7,5	480	3,18	2,16	550	35,6	2,88	2,03	498	29,9	2,24	1,83	388	19,7	1,68	1,66	292	12,5
	5	380	2,68	1,79	462	26,5	2,43	1,69	419	22,5	1,89	1,51	327	14,9	1,41	1,36	244	9,6
	3,5	320	2,21	1,47	381	19,3	2,00	1,39	346	16,5	1,56	1,24	270	11,2	1,17	1,12	202	7,4
	2	260	1,56	1,04	269	11,2	1,41	0,98	244	9,7	1,11	0,88	191	6,9	0,84	0,82	145	5,0
	1	220	1,22	0,82	211	8,0	1,11	0,77	191	7,0	0,87	0,69	150	5,2	0,66	0,66	115	3,9
YFETS-ECM 50	10	645	4,10	2,81	710	18,9	3,70	2,65	641	16,0	2,87	2,40	498	10,8	2,15	2,15	376	7,3
	7,5	535	3,62	2,46	626	15,5	3,28	2,31	567	13,2	2,53	2,07	439	9,0	1,89	1,87	329	6,1
	5	430	3,14	2,10	541	12,4	2,84	1,98	491	10,7	2,20	1,75	380	7,4	1,64	1,57	283	5,2
	3,5	365	2,72	1,81	470	10,0	2,47	1,71	427	8,7	1,92	1,51	331	6,2	1,42	1,34	246	4,5
	2	300	2,09	1,40	361	7,0	1,90	1,31	328	6,2	1,48	1,17	255	4,6	1,10	1,06	190	3,5
	1	255	1,55	1,04	267	4,9	1,40	0,98	242	4,4	1,10	0,88	190	3,6	0,83	0,83	144	2,9

WT: Water temperature
Vdc: Inverter power
Qv: Air flow
Pc: Cooling total emission
Ps: Cooling sensible emission
Qw: Water flow rate
Dp(c): Dp Cooling

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

Model	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
YFTS-ECM 10	10	205	0,88	0,70	153	13,8	0,78	0,68	136	11,5	0,61	0,61	106	8,0	0,46	0,46	81	5,7
	7,5	170	0,77	0,60	134	11,3	0,68	0,58	119	9,5	0,53	0,53	92	6,7	0,40	0,40	70	4,8
	5	130	0,64	0,48	111	8,6	0,57	0,46	98	7,3	0,43	0,43	75	5,3	0,33	0,33	57	3,9
	3,5	110	0,56	0,42	97	7,2	0,49	0,40	85	6,1	0,38	0,37	66	4,5	0,28	0,28	49	3,5
	2	90	0,47	0,34	81	5,7	0,41	0,33	71	5,0	0,31	0,30	55	3,8	0,23	0,23	41	3,1
	1	75	0,39	0,28	67	4,7	0,34	0,27	60	4,2	0,26	0,25	46	3,3	0,20	0,20	34	2,8
YFTS-ECM 20	10	305	1,56	1,20	271	7,1	1,38	1,15	240	6,1	1,06	1,04	184	4,5	0,79	0,79	138	3,5
	7,5	255	1,34	1,01	231	5,8	1,18	0,96	205	5,0	0,90	0,88	157	3,9	0,67	0,67	117	3,1
	5	205	1,11	0,82	191	4,7	0,98	0,78	169	4,2	0,74	0,71	129	3,3	0,55	0,55	96	2,8
	3,5	175	0,97	0,71	168	4,1	0,86	0,68	148	3,7	0,65	0,61	113	3,0	0,48	0,48	84	2,6
	2	145	0,80	0,58	138	3,5	0,71	0,55	122	3,2	0,54	0,50	93	2,7	0,40	0,40	69	2,4
	1	125	0,64	0,47	111	3,0	0,57	0,44	99	2,8	0,44	0,41	76	2,5	0,33	0,33	57	2,3
YFTS-ECM 30	10	470	2,51	1,87	436	17,6	2,23	1,78	387	14,5	1,71	1,62	298	9,8	1,28	1,28	224	6,6
	7,5	395	2,22	1,62	384	14,4	1,96	1,54	340	11,9	1,50	1,39	261	8,1	1,12	1,12	195	5,6
	5	315	1,84	1,32	318	10,8	1,63	1,25	283	9,1	1,25	1,13	216	6,3	0,93	0,93	161	4,5
	3,5	270	1,50	1,08	260	8,1	1,34	1,02	231	6,9	1,02	0,93	177	5,0	0,76	0,76	132	3,8
	2	225	1,04	0,75	180	5,2	0,93	0,70	160	4,6	0,72	0,66	124	3,6	0,55	0,55	95	3,0
	1	190	0,88	0,63	153	4,4	0,79	0,59	136	3,9	0,61	0,56	106	3,2	0,46	0,46	80	2,7
YFTS-ECM 40	10	575	3,24	2,34	561	36,7	2,88	2,22	499	30,0	2,21	2,02	384	19,3	1,65	1,65	289	12,3
	7,5	480	2,86	2,04	495	29,7	2,54	1,93	441	24,4	1,95	1,74	338	15,7	1,45	1,45	252	10,0
	5	380	2,41	1,69	416	22,3	2,15	1,60	371	18,4	1,64	1,43	283	12,0	1,21	1,21	210	7,8
	3,5	320	1,99	1,39	343	16,3	1,78	1,31	307	13,7	1,36	1,18	234	9,1	1,00	1,00	174	6,1
	2	260	1,40	0,99	242	9,6	1,25	0,92	217	8,2	0,96	0,85	167	5,9	0,72	0,72	125	4,3
	1	220	1,10	0,77	190	6,9	0,98	0,72	170	6,0	0,76	0,67	131	4,5	0,57	0,57	99	3,5
YFTS-ECM 50	10	645	3,68	2,66	637	15,9	3,26	2,52	566	13,2	2,49	2,29	434	8,9	1,86	1,86	324	6,0
	7,5	535	3,25	2,32	563	13,1	2,88	2,19	499	10,9	2,20	1,97	382	7,5	1,63	1,63	284	5,2
	5	430	2,82	1,98	487	10,6	2,50	1,87	433	8,9	1,91	1,65	330	6,2	1,40	1,40	243	4,4
	3,5	365	2,45	1,71	424	8,7	2,18	1,61	377	7,4	1,66	1,42	287	5,3	1,22	1,22	211	3,9
	2	300	1,88	1,32	325	6,1	1,68	1,24	291	5,4	1,28	1,11	221	4,0	0,94	0,94	164	3,2
	1	255	1,39	0,98	240	4,4	1,24	0,92	215	4,0	0,96	0,85	165	3,2	0,72	0,72	124	2,7

WT: Water temperature
Vdc: Inverter power
Qv: Air flow
Pc: Cooling total emission
Ps: Cooling sensible emission
Qw: Water flow rate
Dp(c): Dp Cooling

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

Model	Vdc	WT: 7 / 12 °C					WT: 8 / 13 °C				WT: 10 / 15 °C				WT: 12 / 17 °C			
		Qv m³/h	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
YFTS-ECM 10	10	205	0,78	0,68	136	11,5	0,69	0,65	120	9,6	0,53	0,53	93	6,7	0,45	0,45	79	5,5
	7,5	170	0,68	0,58	119	9,5	0,60	0,56	105	8,0	0,46	0,46	81	5,7	0,39	0,39	68	4,7
	5	130	0,56	0,46	98	7,3	0,50	0,44	86	6,2	0,38	0,38	66	4,5	0,30	0,30	52	3,6
	3,5	110	0,49	0,40	85	6,1	0,43	0,38	75	5,2	0,33	0,33	57	4,0	0,25	0,25	43	3,2
	2	90	0,41	0,33	71	5,0	0,36	0,31	62	4,3	0,27	0,27	48	3,4	0,20	0,20	35	2,8
	1	75	0,34	0,27	59	4,1	0,30	0,26	52	3,7	0,23	0,23	40	3,0	0,17	0,17	30	2,6
YFTS-ECM 20	10	305	1,38	1,14	239	6,0	1,21	1,09	211	5,2	0,92	0,92	160	3,9	0,77	0,77	134	3,4
	7,5	255	1,18	0,96	204	5,0	1,03	0,92	180	4,4	0,78	0,78	136	3,5	0,62	0,62	109	3,0
	5	205	0,97	0,78	168	4,2	0,86	0,74	148	3,7	0,65	0,65	112	3,0	0,49	0,49	85	2,6
	3,5	175	0,85	0,68	147	3,7	0,75	0,64	129	3,3	0,56	0,56	98	2,8	0,42	0,42	72	2,5
	2	145	0,70	0,55	122	3,2	0,62	0,53	107	2,9	0,47	0,47	81	2,6	0,34	0,34	60	2,3
	1	125	0,57	0,44	98	2,8	0,50	0,42	86	2,6	0,38	0,38	66	2,4	0,28	0,28	49	2,2
YFTS-ECM 30	10	470	2,22	1,78	386	14,5	1,96	1,69	340	11,9	1,49	1,49	260	8,0	1,11	1,11	194	5,5
	7,5	395	1,95	1,54	339	11,9	1,72	1,46	298	9,8	1,30	1,30	227	6,7	0,97	0,97	169	4,8
	5	315	1,63	1,26	281	9,1	1,43	1,19	247	7,6	1,08	1,08	187	5,3	0,80	0,80	139	3,9
	3,5	270	1,33	1,02	230	6,9	1,17	0,97	203	5,9	0,89	0,89	154	4,3	0,66	0,66	114	3,4
	2	225	0,92	0,70	159	4,5	0,82	0,68	141	4,0	0,63	0,63	109	3,3	0,47	0,47	82	2,8
	1	190	0,78	0,59	136	3,9	0,69	0,57	120	3,5	0,53	0,53	92	2,9	0,40	0,40	70	2,6
YFTS-ECM 40	10	575	2,86	2,22	497	29,9	2,53	2,11	439	24,2	1,92	1,92	334	15,5	1,43	1,43	249	9,9
	7,5	480	2,54	1,94	439	24,3	2,23	1,83	387	19,7	1,69	1,65	293	12,6	1,25	1,25	217	8,2
	5	380	2,14	1,60	370	18,4	1,88	1,51	325	14,9	1,42	1,35	245	9,7	1,04	1,04	180	6,4
	3,5	320	1,77	1,31	305	13,6	1,55	1,24	268	11,2	1,17	1,12	203	7,5	0,86	0,86	149	5,1
	2	260	1,25	0,93	215	8,2	1,10	0,88	190	6,9	0,84	0,82	145	5,0	0,63	0,63	109	3,8
	1	220	0,98	0,73	169	6,0	0,86	0,69	149	5,2	0,66	0,65	115	4,0	0,50	0,50	86	3,2
YFTS-ECM 50	10	645	3,25	2,53	564	13,2	2,86	2,40	496	10,8	2,16	2,16	377	7,3	1,60	1,60	280	5,1
	7,5	535	2,87	2,20	497	10,9	2,52	2,08	437	9,0	1,90	1,87	330	6,2	1,40	1,40	244	4,4
	5	430	2,49	1,87	431	8,9	2,19	1,76	379	7,4	1,64	1,56	284	5,2	1,20	1,20	208	3,8
	3,5	365	2,17	1,61	375	7,4	1,91	1,51	329	6,2	1,43	1,34	247	4,5	1,04	1,04	180	3,4
	2	300	1,67	1,24	289	5,4	1,47	1,17	254	4,6	1,10	1,05	191	3,6	0,81	0,81	140	2,9
	1	255	1,24	0,92	214	3,9	1,09	0,88	189	3,5	0,83	0,82	144	2,9	0,62	0,62	108	2,6

WT: Water temperature
 Vdc: Inverter power
 Qv: Air flow
 Pc: Cooling total emission
 Ps: Cooling sensible emission
 Qw: Water flow rate
 Dp(c): Dp Cooling

HEATING EMISSION

Entering air temperature: 18 °C

Model	Vdc	Qv m³/h	WT: 70 / 60 °C			WT: 60 / 50 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C		
			Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
YFTS-ECM 10	10	205	2,35	202	16,7	1,83	157	11,7	1,31	113	7,5	1,47	252	25,3	1,21	208	18,8
	7,5	170	2,03	175	13,3	1,59	136	9,5	1,14	98	6,3	1,27	218	19,9	1,05	180	14,9
	5	130	1,66	142	9,8	1,30	111	7,2	0,93	80	5,0	1,03	178	14,4	0,86	147	11,0
	3,5	110	1,45	125	8,1	1,14	98	6,1	0,82	71	4,4	0,90	155	11,7	0,75	129	9,1
	2	90	1,26	108	6,8	0,99	85	5,2	0,72	62	3,9	0,79	135	9,6	0,65	112	7,5
	1	75	1,17	101	6,2	0,92	79	4,8	0,67	57	3,6	0,73	126	8,6	0,61	104	6,8
YFTS-ECM 20	10	305	3,84	330	7,5	3,00	258	5,6	2,16	186	4,1	2,40	412	10,6	1,98	341	8,3
	7,5	255	3,33	287	6,2	2,61	225	4,8	1,88	162	3,6	2,08	358	8,7	1,72	296	6,8
	5	205	2,79	240	5,1	2,19	188	4,1	1,59	136	3,2	1,74	299	6,9	1,44	248	5,5
	3,5	175	2,45	211	4,4	1,93	166	3,6	1,40	120	2,9	1,53	263	5,8	1,27	218	4,8
	2	145	2,15	185	3,9	1,69	145	3,3	1,23	106	2,7	1,34	230	5,0	1,11	191	4,2
	1	125	2,05	176	3,8	1,61	139	3,2	1,17	101	2,7	1,27	219	4,8	1,06	182	4,0
YFTS-ECM 30	10	470	6,14	528	18,6	4,83	415	13,1	3,50	301	8,5	3,83	659	28,2	3,18	547	21,1
	7,5	395	5,34	459	14,9	4,20	362	10,7	3,06	263	7,1	3,33	572	22,3	2,76	475	16,8
	5	315	4,44	382	11,2	3,50	301	8,2	2,55	220	5,7	2,76	475	16,5	2,30	395	12,6
	3,5	270	3,90	336	9,3	3,08	265	6,9	2,25	194	4,9	2,43	417	13,5	2,02	347	10,4
	2	225	3,42	295	7,8	2,71	233	5,9	1,98	171	4,3	2,13	366	11,1	1,77	305	8,7
	1	190	3,21	276	7,1	2,54	218	5,5	1,86	160	4,1	1,99	343	10,1	1,66	286	7,9
YFTS-ECM 40	10	575	7,64	657	36,8	6,02	518	25,4	4,39	378	15,8	4,76	819	56,9	3,95	680	42,1
	7,5	480	6,60	567	28,7	5,21	448	20,1	3,81	328	12,7	4,11	707	44,1	3,42	588	32,8
	5	380	5,44	468	20,9	4,30	370	14,8	3,15	271	9,6	3,38	582	31,7	2,82	485	23,8
	3,5	320	4,70	405	16,5	3,72	320	11,9	2,74	235	7,9	2,92	503	24,8	2,44	419	18,8
	2	260	4,04	347	13,0	3,20	275	9,5	2,36	203	6,5	2,51	431	19,3	2,09	360	14,7
	1	220	3,78	325	11,8	3,00	258	8,7	2,21	190	6,0	2,35	404	17,4	1,96	337	13,3
YFTS-ECM 50	10	645	8,87	763	16,5	6,99	601	11,8	5,10	439	7,7	5,52	950	24,9	4,59	790	18,7
	7,5	535	7,60	654	13,0	6,00	516	9,4	4,39	377	6,4	4,73	814	19,3	3,94	677	14,7
	5	430	6,32	544	9,9	5,00	430	7,3	3,67	315	5,2	3,93	676	14,4	3,28	563	11,1
	3,5	365	5,49	472	8,1	4,35	374	6,2	3,20	275	4,5	3,41	587	11,6	2,85	489	9,1
	2	300	4,75	409	6,7	3,77	324	5,2	2,78	239	3,9	2,95	507	9,4	2,46	423	7,4
	1	255	4,62	397	6,5	3,67	315	5,1	2,70	232	3,8	2,87	493	9,0	2,39	412	7,2

WT: Water temperature

Vdc: Inverter power

Qv: Air flow

Ph: Heating emission

Qw: Water flow rate

Dp(h): Dp Heating

Radiant panel heating emission

Model	Ph* kW
YFTS-ECM-VC-R 10	0,06
YFTS-ECM-VC-R 20	0,09
YFTS-ECM-VC-R 30	0,12
YFTS-ECM-VC-R 40	0,15
YFTS-ECM-VC-R 50	0,18

*Additional emission once the panel is activated

Entering air temperature: 20 °C

Model	Vdc	Qv m³/h	WT: 70 / 60 °C			WT: 60 / 50 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C		
			Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
YFETS-ECM 10	10	205	2,23	192	15,4	1,72	148	10,7	1,20	103	6,7	1,36	234	22,3	1,10	190	16,2
	7,5	170	1,93	166	12,3	1,49	128	8,7	1,04	90	5,7	1,18	202	17,6	0,96	165	13,0
	5	130	1,58	136	9,2	1,22	105	6,7	0,86	74	4,6	0,96	165	12,8	0,78	134	9,6
	3,5	110	1,38	119	7,6	1,07	92	5,7	0,75	65	4,0	0,84	144	10,5	0,68	118	8,0
	2	90	1,20	103	6,4	0,93	80	4,9	0,66	57	3,6	0,73	125	8,6	0,60	102	6,7
	1	75	1,12	96	5,8	0,87	74	4,5	0,61	53	3,4	0,68	116	7,8	0,55	95	6,1
YFETS-ECM 20	10	305	3,66	315	7,0	2,82	243	5,2	1,98	170	3,8	2,22	382	9,5	1,81	311	7,3
	7,5	255	3,18	273	5,9	2,46	211	4,5	1,73	149	3,4	1,93	332	7,8	1,57	270	6,1
	5	205	2,66	229	4,8	2,06	177	3,8	1,46	125	3,0	1,61	278	6,2	1,32	227	5,0
	3,5	175	2,34	201	4,2	1,81	156	3,5	1,29	111	2,8	1,42	244	5,3	1,16	199	4,4
	2	145	2,05	176	3,8	1,59	137	3,2	1,13	97	2,6	1,24	213	4,6	1,01	174	3,9
	1	125	1,95	168	3,6	1,52	130	3,1	1,08	93	2,6	1,18	203	4,4	0,97	166	3,7
YFETS-ECM 30	10	470	5,85	503	17,2	4,54	391	12,0	3,23	277	7,6	3,55	611	24,9	2,90	499	18,2
	7,5	395	5,09	438	13,8	3,96	340	9,8	2,82	242	6,4	3,09	531	19,8	2,53	434	14,6
	5	315	4,23	364	10,5	3,30	283	7,6	2,35	202	5,2	2,56	441	14,7	2,10	361	11,0
	3,5	270	3,72	320	8,7	2,90	249	6,4	2,08	179	4,5	2,25	387	12,1	1,85	318	9,2
	2	225	3,26	281	7,3	2,55	219	5,5	1,83	157	4,0	1,98	340	10,0	1,62	279	7,7
	1	190	3,06	263	6,7	2,39	206	5,1	1,72	148	3,8	1,85	318	9,1	1,52	261	7,1
YFETS-ECM 40	10	575	7,27	626	33,8	5,67	487	23,0	4,05	348	13,9	4,42	759	50,0	3,62	622	36,2
	7,5	480	6,29	541	26,5	4,90	422	18,2	3,51	302	11,2	3,81	656	38,9	3,13	538	28,3
	5	380	5,18	446	19,3	4,05	348	13,5	2,91	250	8,6	3,14	540	28,0	2,58	443	20,6
	3,5	320	4,48	386	15,3	3,51	302	10,9	2,52	217	7,1	2,71	467	22,0	2,23	384	16,3
	2	260	3,85	331	12,1	3,02	259	8,8	2,18	187	5,9	2,33	400	17,2	1,91	329	12,9
	1	220	3,61	310	11,0	2,83	243	8,0	2,04	176	5,5	2,18	375	15,5	1,79	309	11,7
YFETS-ECM 50	10	645	8,45	727	15,3	6,58	566	10,8	4,70	404	7,0	5,12	881	22,0	4,20	722	16,2
	7,5	535	7,24	623	12,1	5,65	486	8,7	4,04	348	5,8	4,39	755	17,1	3,60	619	12,8
	5	430	6,03	518	9,2	4,71	405	6,8	3,38	291	4,7	3,65	628	12,8	3,00	515	9,7
	3,5	365	5,24	450	7,6	4,10	352	5,7	2,95	254	4,1	3,17	545	10,4	2,61	448	8,0
	2	300	4,53	390	6,3	3,55	305	4,9	2,56	220	3,7	2,74	471	8,5	2,25	388	6,6
	1	255	4,40	379	6,1	3,45	297	4,7	2,49	214	3,6	2,66	458	8,2	2,19	377	6,4

WT: Water temperature
Vdc: Inverter power
Qv: Air flow
Ph: Heating emission
Qw: Water flow rate
Dp(h): Dp Heating

Radiant panel heating emission

Model	Ph* kW
YFETS-ECM-VC-R 10	0,06
YFETS-ECM-VC-R 20	0,09
YFETS-ECM-VC-R 30	0,12
YFETS-ECM-VC-R 40	0,15
YFETS-ECM-VC-R 50	0,18

***Additional emission once the panel is activated**

Entering air temperature: 22 °C

Model	Vdc	Qv m³/h	WT: 70 / 60 °C			WT: 60 / 50 °C			WT: 50 / 40 °C			WT: 50 / 45 °C			WT: 45 / 40 °C		
			Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa	Ph kW	Qw l/h	Dp(h) kPa
YFTS-ECM 10	10	205	2,12	183	14,2	1,61	139	9,7	1,09	94	6,0	1,25	216	19,5	1,00	172	13,9
	7,5	170	1,84	158	11,4	1,40	120	8,0	0,95	82	5,1	1,08	186	15,5	0,87	149	11,2
	5	130	1,50	129	8,5	1,14	98	6,1	0,78	67	4,2	0,88	152	11,3	0,71	122	8,4
	3,5	110	1,31	113	7,1	1,00	86	5,3	0,69	59	3,7	0,77	133	9,3	0,62	106	7,0
	2	90	1,14	98	6,0	0,87	75	4,6	0,60	52	3,4	0,67	116	7,7	0,54	93	5,9
	1	75	1,06	91	5,5	0,81	70	4,2	0,56	48	3,2	0,62	107	7,0	0,50	86	5,4
YFTS-ECM 20	10	305	3,48	299	6,6	2,64	227	4,9	1,81	155	3,5	2,05	352	8,5	1,64	282	6,4
	7,5	255	3,02	259	5,5	2,30	198	4,2	1,58	136	3,2	1,78	306	7,0	1,42	245	5,4
	5	205	2,53	217	4,6	1,93	166	3,6	1,33	114	2,9	1,49	256	5,7	1,19	205	4,5
	3,5	175	2,22	191	4,0	1,70	146	3,3	1,17	101	2,7	1,31	225	4,9	1,05	180	4,0
	2	145	1,94	167	3,6	1,49	128	3,0	1,03	89	2,6	1,14	197	4,3	0,92	158	3,6
	1	125	1,85	159	3,5	1,42	122	2,9	0,99	85	2,5	1,09	188	4,1	0,88	151	3,4
YFTS-ECM 30	10	470	5,56	478	15,9	4,26	366	10,9	2,95	253	6,7	3,28	564	21,8	2,63	453	15,6
	7,5	395	4,84	416	12,8	3,71	319	8,9	2,58	221	5,7	2,85	490	17,4	2,29	394	12,6
	5	315	4,02	346	9,7	3,09	266	7,0	2,15	185	4,7	2,37	407	13,0	1,91	328	9,6
	3,5	270	3,54	304	8,1	2,72	234	6,0	1,90	163	4,2	2,08	358	10,7	1,68	288	8,0
	2	225	3,11	267	6,9	2,40	206	5,1	1,68	144	3,7	1,83	314	8,9	1,47	253	6,8
	1	190	2,91	250	6,3	2,25	193	4,8	1,57	135	3,5	1,71	294	8,1	1,38	237	6,2
YFTS-ECM 40	10	575	6,92	595	31,1	5,32	457	20,8	3,70	319	12,1	4,08	701	43,6	3,28	564	30,6
	7,5	480	5,98	514	24,4	4,60	396	16,5	3,22	277	9,9	3,52	606	33,9	2,84	488	24,0
	5	380	4,93	424	17,8	3,81	327	12,3	2,67	229	7,6	2,90	499	24,5	2,34	403	17,6
	3,5	320	4,27	367	14,2	3,30	283	9,9	2,32	199	6,4	2,51	431	19,3	2,03	348	14,0
	2	260	3,66	315	11,2	2,83	244	8,0	2,00	172	5,3	2,15	370	15,1	1,74	299	11,1
	1	220	3,43	295	10,2	2,66	229	7,4	1,88	161	5,0	2,02	347	13,7	1,63	281	10,1
YFTS-ECM 50	10	645	8,04	691	14,1	6,18	531	9,8	4,30	370	6,2	4,73	814	19,3	3,81	655	13,9
	7,5	535	6,89	592	11,2	5,31	456	8,0	3,70	318	5,2	4,05	697	15,1	3,27	562	11,1
	5	430	5,73	493	8,6	4,43	381	6,3	3,10	267	4,3	3,37	580	11,4	2,72	468	8,5
	3,5	365	4,98	428	7,1	3,85	331	5,3	2,70	233	3,8	2,93	504	9,3	2,37	407	7,1
	2	300	4,31	371	6,0	3,34	287	4,6	2,35	202	3,4	2,53	435	7,6	2,05	352	5,9
	1	255	4,19	361	5,8	3,25	279	4,5	2,29	197	3,4	2,46	423	7,3	1,99	343	5,7

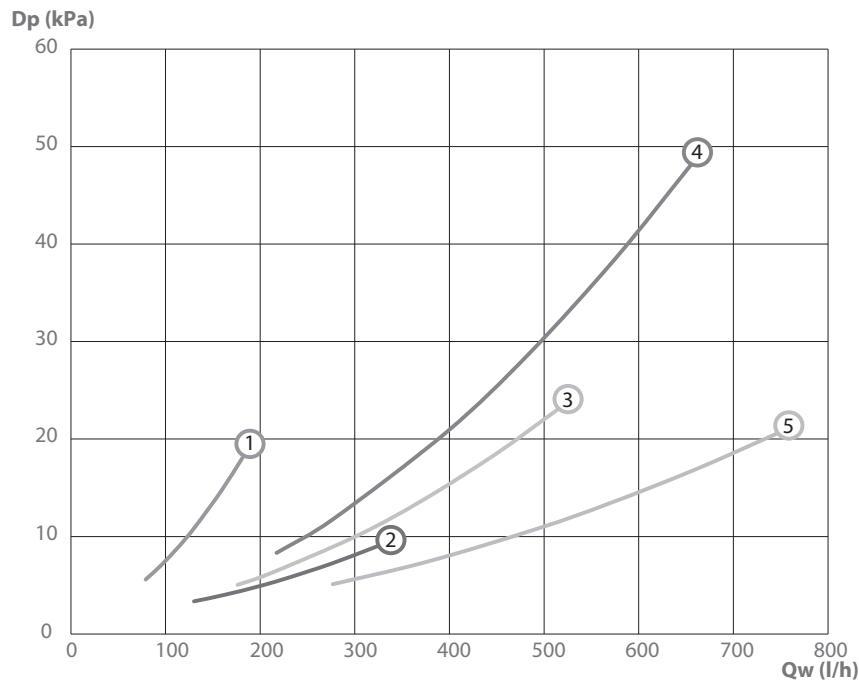
WT: Water temperature
Vdc: Inverter power
Qv: Air flow
Ph: Heating emission
Qw: Water flow rate
Dp(h): Dp Heating

Radiant panel heating emission

Model	Ph* kW
YFTS-ECM-VC-R 10	0,06
YFTS-ECM-VC-R 20	0,09
YFTS-ECM-VC-R 30	0,12
YFTS-ECM-VC-R 40	0,15
YFTS-ECM-VC-R 50	0,18

*Additional emission once the panel is activated

WATER SIDE PRESSURE DROP



Dp = pressure drop
 Qw = water flow rate
 1 = YFTS-ECM 10
 2 = YFTS-ECM 20
 3 = YFTS-ECM 30
 4 = YFTS-ECM 40
 5 = YFTS-ECM 50

Pressure drop for mean water temperature of **10 °C**; for different temperatures multiply the pressure drop figure by the **K** correction factors in the table.

	Mean water temperature (°C)						
	20	30	40	50	60	70	80
K correction factor	0,94	0,90	0,86	0,82	0,78	0,74	0,70

OPERATION LIMITS

Description		UoM	Value
Water flow	Coil maximum working pressure	bars	16
		kPa	1600
	Lowest water inlet temperature	°C	6
	Highest water inlet temperature	°C	85
Power supply	Single-phase rated operating voltage	V/Hz	230/50

Coils water flow limits

2 row coil

Model		YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
Water flow rate Min.	l/h	40	80		120	
Water flow rate Max.	l/h	200	350	500	600	800

Motor max. absorption

Model		YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
Motor absorption	W	10,5	14,0	21,5	25,5	30,0
Current absorbed	A	0,15	0,18	0,25	0,28	0,30

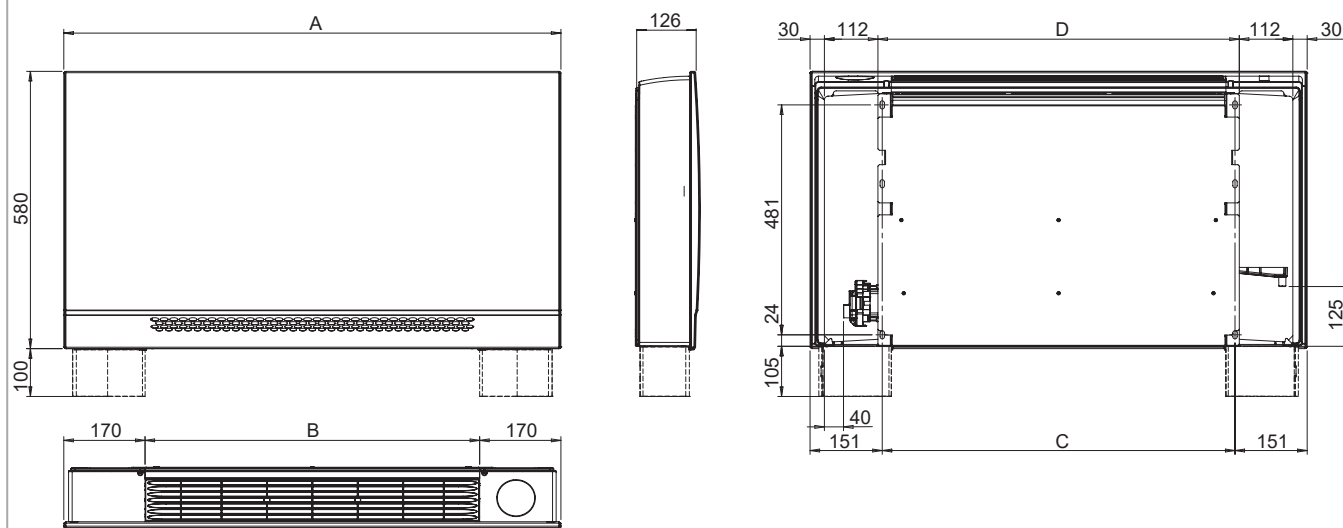
Motor max. absorption plus radiant panel

Model		YFTS-ECM-VC-R 10	YFTS-ECM-VC-R 20	YFTS-ECM-VC-R 30	YFTS-ECM-VC-R 40	YFTS-ECM-VC-R 50
Rating	W	70,5	104,0	141,5	175,5	210,0
Current absorbed	A	0,45	0,58	0,85	0,98	1,10

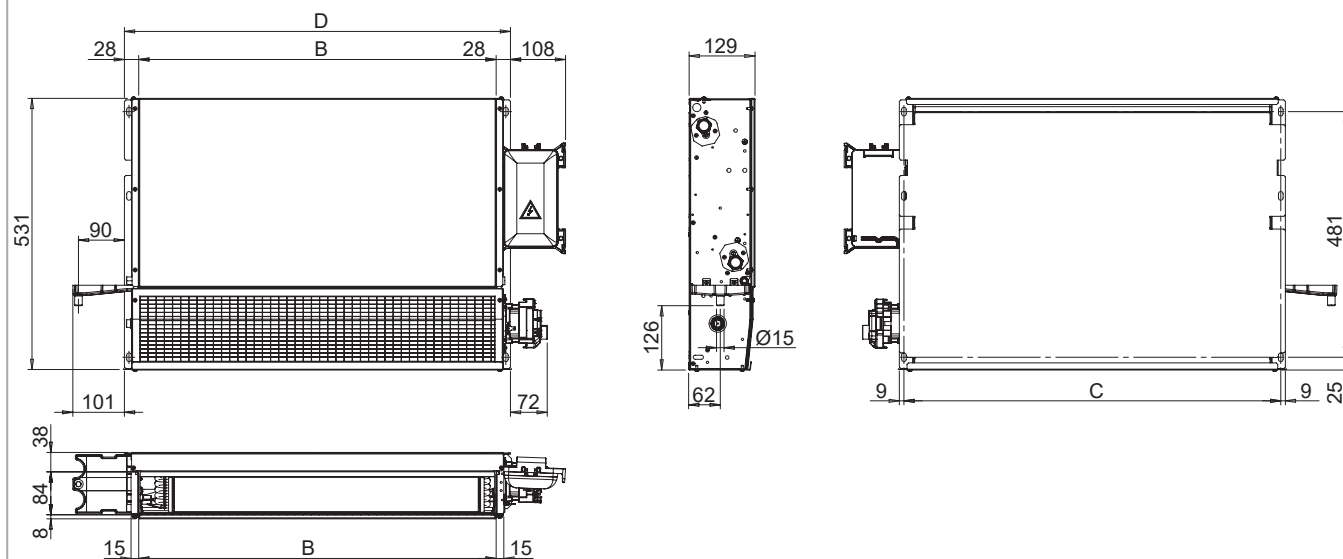


DIMENSIONS

Standard version with casing - VC / VC-R



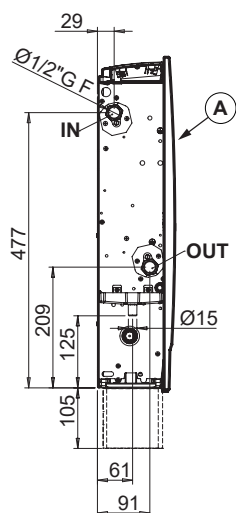
Version for concealed installation - CDV



Model		YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
A	mm	640	840	1040	1240	1440
B	mm	300	500	700	900	1100
C	mm	338	538	738	938	1138
D	mm	356	556	756	956	1156

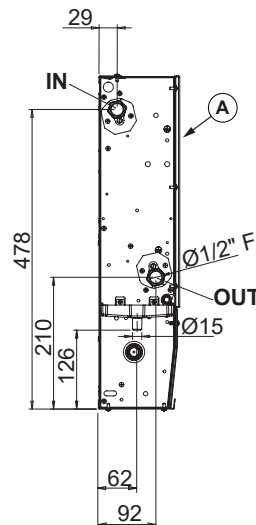
Coil connections

VC / VC-R version - Connection side



A = unit front

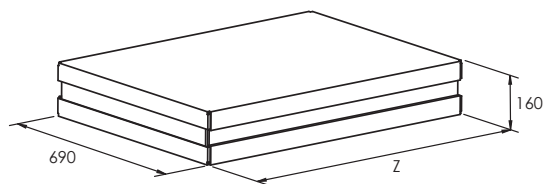
CDV version - Connection side



A = unit front

Packed unit

Packed unit



Model		YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
Z	mm	720	920	1120	1320	1520

Weights

The table of the weight is related to the standard versions with casing in the basic configuration without

control and without valves; the weights can change for those units completed with control and/or valve.

Standard version with VC casing

Model		YFTS-ECM-VC 10	YFTS-ECM-VC 20	YFTS-ECM-VC 30	YFTS-ECM-VC 40	YFTS-ECM-VC 50
Weight with packaging	kg	11,6	14,9	18,5	21,9	25,7
Weight without packaging	kg	10,1	13,2	16,4	19,6	23,0

Versions with radiant panel VC-R

Model		YFTS-ECM-VC-R 10	YFTS-ECM-VC-R 20	YFTS-ECM-VC-R 30	YFTS-ECM-VC-R 40	YFTS-ECM-VC-R 50
Weight with packaging	kg	12,1	16,1	20,3	24,9	29,4
Weight without packaging	kg	10,5	14,2	18,1	22,5	26,6

CDV version for concealed installation

Model		YFTS-ECM-CDV 10	YFTS-ECM-CDV 20	YFTS-ECM-CDV 30	YFTS-ECM-CDV 40	YFTS-ECM-CDV 50
Weight with packaging	kg	10,1	13,6	17,3	20,9	24,9
Weight without packaging	kg	8,5	11,7	15,1	18,5	22,1

Water content

Model		YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
Water content	l	0,4	0,7	1,1	1,4	1,7

VALVES

The YFTS-ECM units are available either in the versions with mounted valves and in the versions without valves. The features and the installation dimensions of the

valves are shown as follows and are valid either for the versions with mounted valves and for the versions with valves installed on site.

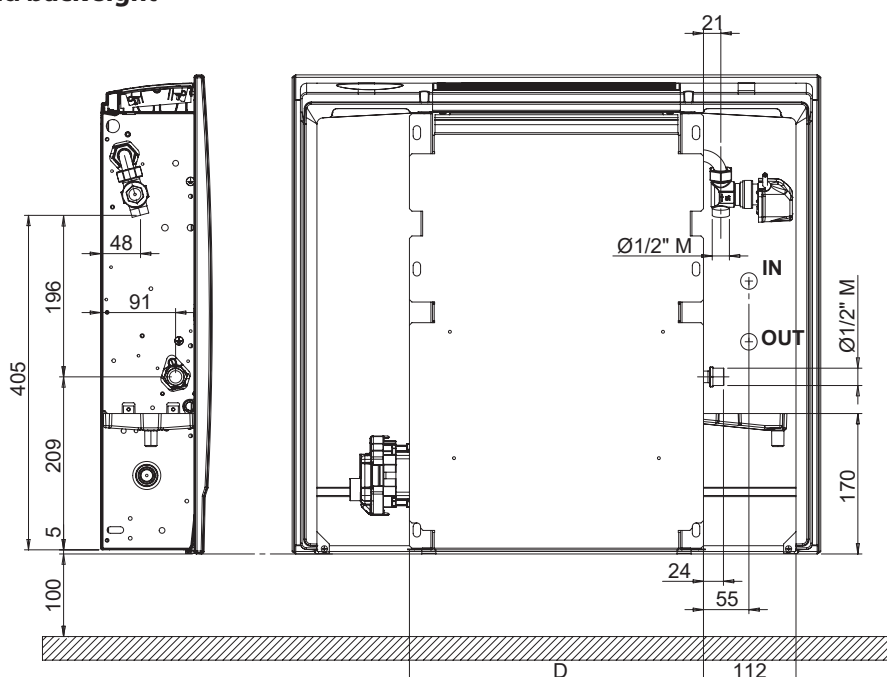
2 way valve

2 way valve ON-OFF 230 V

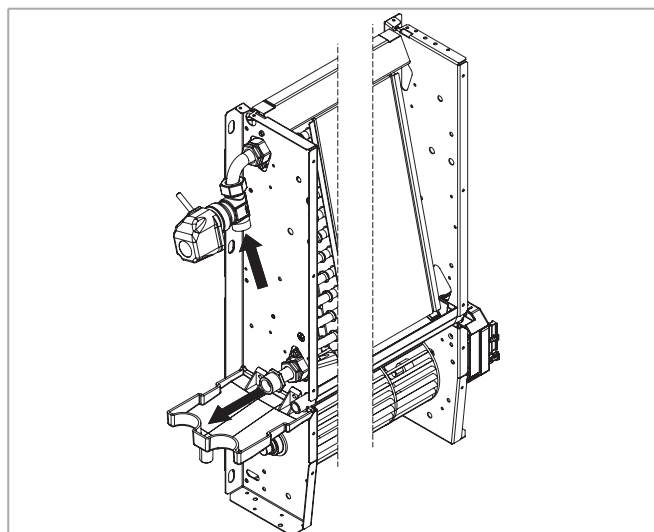
Model	NOT FITTED		Kvs m ³ /h	Dp max ⁽¹⁾ kPa	Valve connections (male) Ø
	ID	Code			
10-20-30-40-50	V2-F	9071090	1,7	50	1/2"

(1) Maximum pressure difference for valve to close

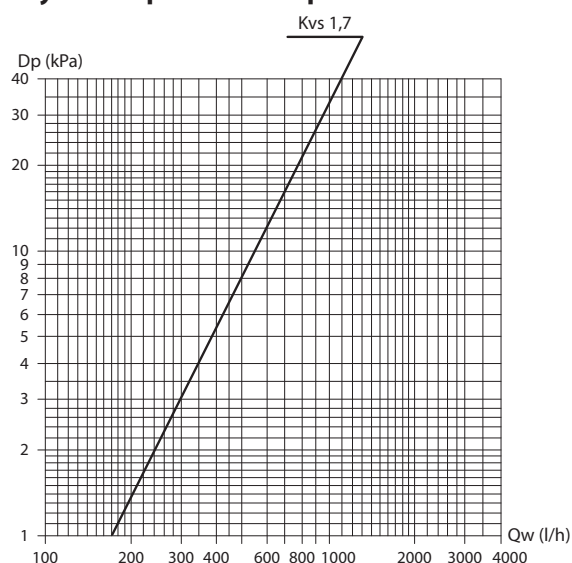
Connection side and back sight



Model	YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
D	356	556	756	956	1156



2 way valves pressure drop



Dp = pressure drop
Qw = water flow rate

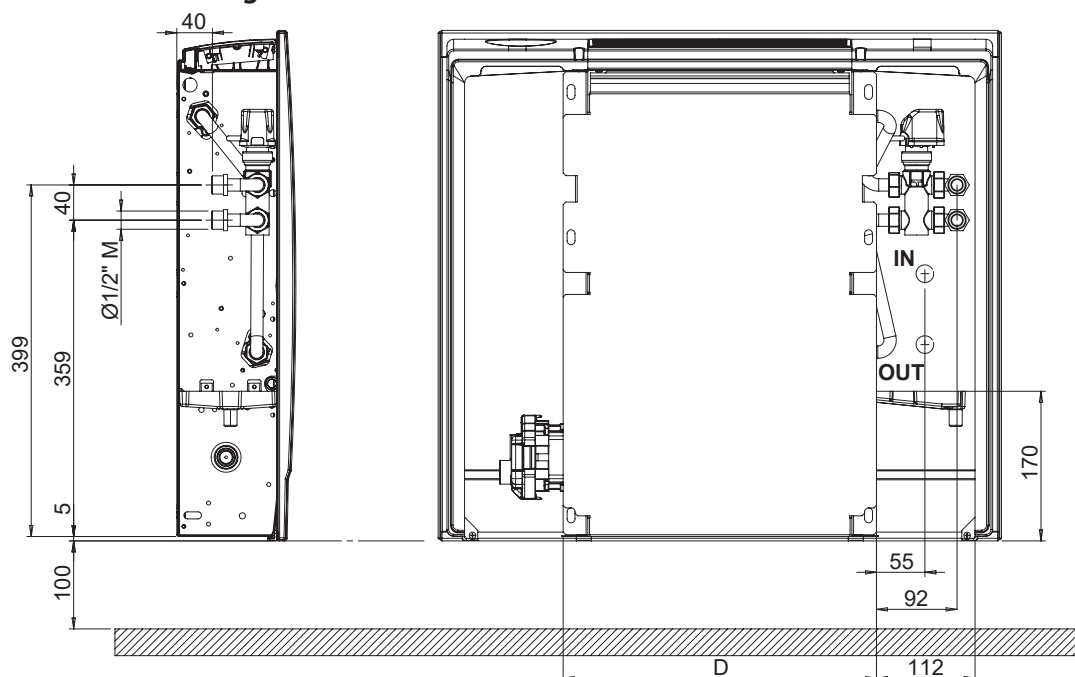
3 way valves

3 way water valve ON-OFF 230 V and mounting kit.

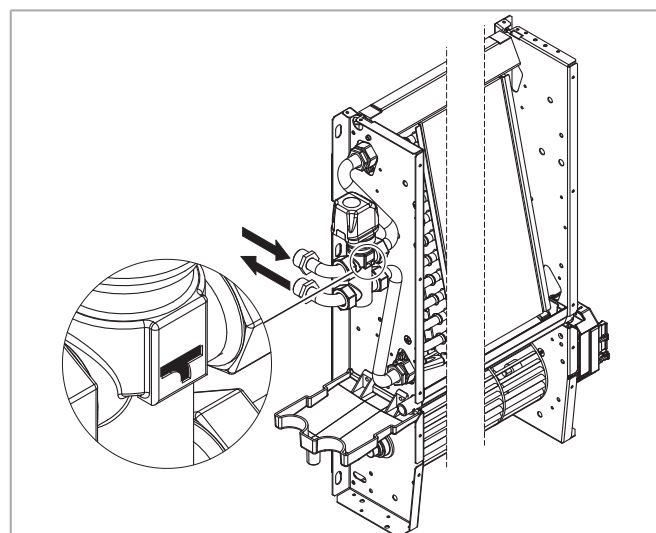
Model	NOT FITTED		Kvs m ³ /h	Dp max ⁽¹⁾ kPa	Pipe kit connection (male) Ø
	ID	Code			
10-20-30-40-50	V3-F	9071091	1,6	50	1/2"

(1) Maximum pressure difference for valve to close

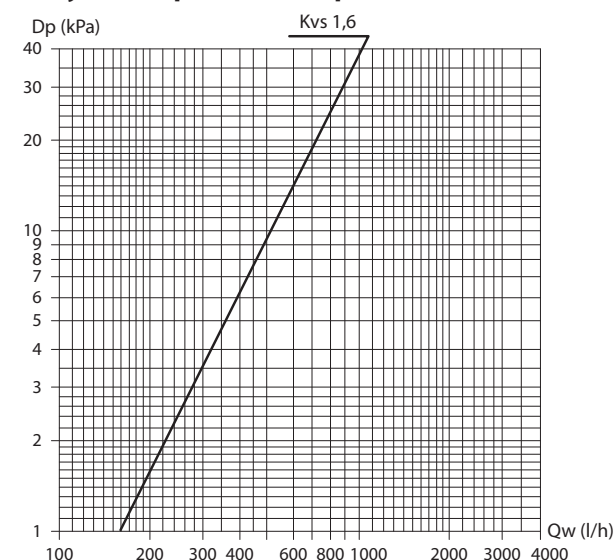
Connection side and back sight



Model	YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
D	356	556	756	956	1156



3 way valves pressure drop



Dp = pressure drop
Qw = water flow rate

CONFIGURATIONS AND ELECTRONIC CONTROLS

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 - Minimum speed

10 Vdc = Maximum speed

ECM Blac inverter board

0÷10 Vdc Circuit Input Impedance Value = 100 kOhm

Controls

All the YFTS-ECM units can be supplied and managed with the following controls:

- **CB-Touch EASY** control fitted on the unit (only version with casing, available mounted on site or supplied with separate packaging)
- **CB-Touch** control fitted on the unit (only version with casing, available mounted on site or supplied with separate packaging)
- **JWC-AU** wall control (supplied with separate packaging)
- **T-MB 2 SW** wall control (supplied with separate packaging)

The **CB-Touch** control fitted on the unit, whose characteristics are described at p. 23, can be supplied either fitted on the unit or with separate packaging; this control fitted on the unit that is separately bought can be used only with UP power unit to buy separately.

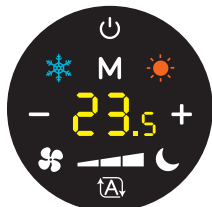
The **JWC-AU** and **T-MB 2 SW** wall controls, whose characteristics are described from p. 24, are electronic controls that allow to manage one single unit or a group of units (only with the use of a power unit for each unit); the **JWC-AU** and **T-MB 2 SW** controls can be bought only separately and can be used only with **UP-Touch** power units to buy separately.

The electronic thermostats control the room temperature precisely and are suitable when the user wants to set the fan speed.

CONTROLS

Controls fitted on the unit features

CB-Touch EASY control fitted on the unit features



The CB-Touch EASY control allows to control and adjust the room temperature in a simple and intuitive way by means of a probe positioned in the lower part of the unit.

CB-Touch EASY allows to select the desired operation mode, heat, cool or just ventilate the room, set a desired temperature set and adjust the fan operating speed according to your needs.

The maximum operation speed will be set to reach quickly the comfort temperature. Otherwise the minimum operation speed will be set when a noiseless operation is required, or the auto mode to optimise thermal and sound comfort.

With the low temperature cut-out thermostat (T3 sensor collocated between the coil fins; already wired for the units with fitted control, included together with the power unit and to wire for the versions without control) and according to the selected operation there will be as follows:

- winter cycle - the fan will only start operating if the water temperature is above 30 °C, thus preventing cold air from flowing out from the unit.
- summer cycle - the fan will only start operating if the water temperature is below 21 °C, thus preventing hot air from flowing out from the unit.

To improve comfort, it is also possible to select the night mode which minimises the fan speed and smartly changes the set temperature independently.

On the models with radiant panel during the winter cycle, the night mode activates the radiant panel and manages automatically the ventilation by optimizing it, until the fan is completely off and keeps the temperature steady only with the radiant panel; in this case the configured setpoint is not modified.

The control has a memory, so all settings will not be lost either in the event of switching off or power failure.

After a period of 3 minutes since the last action the

brightness of the panel is reduced (SLEEPING mode) in order to increase the energy saving and the comfort during the night; only the symbol  is shown on the display.

By pressing the same button twice, the brightness is restored.



CB-Touch control fitted on the unit features



The CB-Touch control allows to control and adjust the room temperature in a simple and intuitive way by means of a probe positioned in the lower part of the unit.

CB-Touch allows to select the desired operation mode, heat, cool or just ventilate the room, set a desired temperature set and adjust the fan operating speed according to your needs.

The maximum operation speed will be set to reach quickly the comfort temperature. Otherwise the minimum operation speed will be set when a noiseless operation is required, or the auto mode to optimise thermal and sound comfort.

With the low temperature cut-out thermostat (T3 sensor collocated between the coil fins; already wired for the units with fitted control, included together with the power unit and to wire for the versions without control) and according to the selected operation there will be as follows:

- winter cycle - the fan will only start operating if the water temperature is above 30 °C, thus preventing cold air from flowing out from the unit.
- summer cycle - the fan will only start operating if the water temperature is below 21 °C, thus preventing hot air from flowing out from the unit.

To improve comfort, it is also possible to select the night mode which minimises the fan speed and smartly changes the set temperature independently.

On the models with radiant panel during the winter cycle, the night mode activates the radiant panel and manages automatically the ventilation by optimizing it, until the fan is completely off and keeps the temperature steady only with the radiant panel; in this case the configured setpoint is not modified.

The control has a memory, so all settings will not be lost either in the event of switching off or power failure.

After a period of 3 minutes since the last action the brightness of the panel is reduced (SLEEPING mode) in order to increase the energy saving and the comfort during the night; only the symbol  is shown on the display.

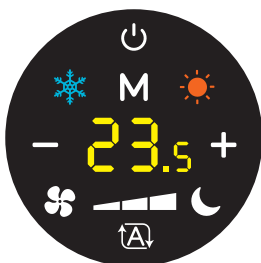
By pressing the same button twice, the brightness is restored.



Controls fitted on the unit

CB-Touch EASY control fitted on the unit

Model	ID	Code
10-20-30-40-50	CB-Touch EASY	9071283



The control must always be connected with UP-Touch EASY power unit (separately delivered).

(the power unit is already installed on the units with fitted control and must be ordered separately for the versions without control)

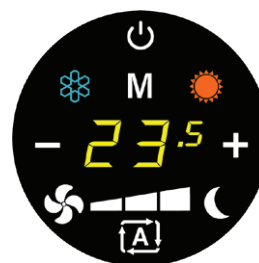
The main characteristics are:

- Set the unit ON or stand-by
- Operation mode (Summer/Winter/Ventilation)
- Set the fan speed
- Set the automatic fan speed
- Possibility to use the T1 sensor as return air probe (mounted on the power unit)
- Possibility to use the T3 sensor as low temperature cut-out thermostat (mounted on the power unit)
- It allows to use the T2 sensor as Change-over (mounted on the power unit).
- Night mode (with radiant panel activation in winter, on radiant models)
- Alarm messages
- OFFSET regulation
- Button lock controller
- Regulation of LED brightness

Control power absorption: see the UP-Touch EASY power unit

CB-Touch control fitted on the unit

Model	ID	Code
10-20-30-40-50	CB-Touch	9071061



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

(the power unit is already installed on the units with fitted control and must be ordered separately for the versions without control)

The main characteristics are:

- Set the unit ON or stand-by
- Operation mode (Summer/Winter/Ventilation)
- Set the fan speed
- Set the automatic fan speed
- Possibility to use the T1 sensor as return air probe (mounted on the power unit)
- Possibility to use the T3 sensor as low temperature cut-out thermostat (mounted on the power unit)
- It allows to use the T2 sensor as Change-over (mounted on the power unit).
- Night mode (with radiant panel activation in winter, on radiant models)
- Alarm messages
- OFFSET regulation
- Button lock controller
- Regulation of LED brightness

Control power absorption: see the UP-Touch power unit

Wall controls

JWC-AU wall control

Model	ID	Code
10-20-30-40-50	JWC-AU	9066632K



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

The main characteristics are:

- ON/OFF switch
- Manual/automatic 3 speed switch.
- Manual, automatic or centralized Summer/Winter switch.
- Summer/Winter/Fan/Auto mode switch.
- Electronic room thermostat for fan and water valves control (ON-OFF).
- Simultaneous thermostatic control of the valves and fan.
- Thermostatic control only with air probe fitted on the control.
- Possibility to use the T3 sensor as low temperature cut-out thermostat (mounted on the power unit)
- Possibility to use the T2 sensor as Change-over (mounted on the power unit).
- Energy saving function.
- Presence of a LED signal when the thermostat is on.

Control power absorption: see the UP-Touch power unit

Dimensions: 135x86x24 mm

T-MB 2 SW wall control

Model	ID	Code
10-20-30-40-50	T-MB 2 SW	9066994ESW



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

Note: not to be used with UP-Touch EASY

Control with TFT 2,4" coloured graphic display for wall installation.

The main characteristics are:

- Management by keyboard
- Management of one single unit or of several units in Master/Slave mode
- ON/OFF switch
- Operation mode setting
- Setpoint configuration or setpoint variation by supervisory program (+/- 3°C of the set)
- Room temperature internal sensor, which can be defined as a priority compared to the return air sensor on the fan coil
- Fan speed switch
- Advanced daily/weekly ON/OFF programming with 3 pre-settable weekly programs
- Viewing and change of the operating mode parameters of the unit, alarm notification and information related to the unit
- Activation/deactivation of the room temperature display
- Radiant panel activation (for R versions)
- Possibility to use the T1 sensor which allows the return air control (fitted on the power unit)

Control power absorption: see the UP-Touch power unit

Dimensions: 115x75x20 mm

WM-503-AC-EC wall control

Model	ID	Code
10-20-30-40-50	WM-503-AC-EC	9066686



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

The 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 is designed to be installed in a 503 wall box.

Easy to use, it is equipped with a large and efficient backlit LCD 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.

The main characteristics are:

- 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 LCD display with adjustable backlight and 4 keys
- 2 and 4 pipe fan coil units control
- Button lock controller

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

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

Power units and probes

UP-Touch EASY power unit

Model	ID	Code
10-20-30-40-50	UP-Touch EASY	9071281



Power unit for UP-Touch EASY control

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

- It controls the motor/the fan and the fan coil valve.
- It is connected to the electric supply.
- It receives the information required to manage such parts from the CB-Touch EASY control.
- Possibility of Modbus serial connection via RS485 web gateway with BMS supervision systems.
- Possibility to use the T1 sensor (included) for the T1 function which allows the return air control.
- Possibility to use the T3 sensor (included) for the T3 function as water coil low temperature cut-out thermostat (summer and winter operation).
- Possibility to use the T2 probe (included) for the T2 function which controls the summer/winter switch (change-over).
- 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.

Power unit absorption: 2,5 VA (1,9 W)

UP-Touch power unit

Model	ID	Code
10-20-30-40-50	UP-Touch	9071065



Power unit for CB-Touch, JWC-AU and T-MB 2 SW controls

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

- It controls the motor/the fan and the fan coil valve.
- It is connected to the electric supply.
- It receives the information required to manage such parts from the CB-Touch control, from the JWC-AU or from the T-MB 2 SW controls
- Possibility to use the T1 sensor (included) for the T1 function which allows the return air control.
- Possibility to use the T3 sensor (included) for the T3 function as water coil low temperature cut-out thermostat (summer and winter operation)
- Possibility to use the T2 probe (included) for the T2 function which controls the summer/winter switch (change-over).
- 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.

Power unit absorption: 11 VA (6 W)

UP-503-AC-EC power unit

Model	ID	Code
10-20-30-40-50	UP-503-AC-EC	9066687



Power unit for WM-503-AC-EC control.

The power unit must always be connected with the "Mounting kit for power unit" code 9071076.

Power unit to be installed on the end unit (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

T2 probe

Model	ID	Code
10-20-30-40-50	T2	9025310



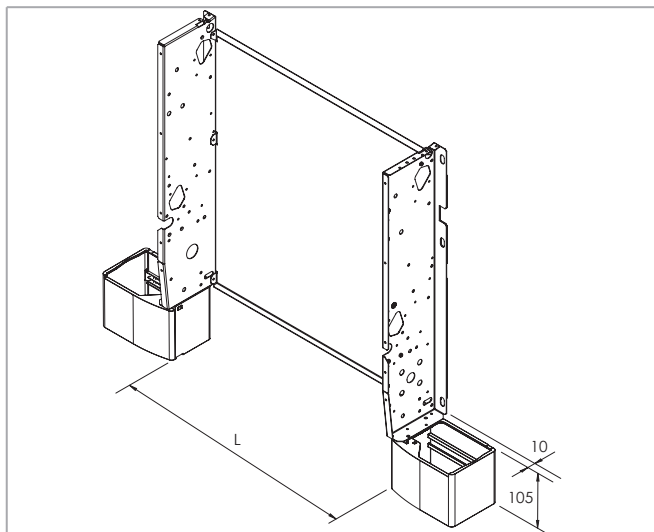
NTC probe type, to be placed on the water supply pipe upstream of the valves (not to be used with 2 way valves).

The T2 probe is to be used as Change-Over for 2 pipe systems, for the automatic switch of the operation 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.

ACCESSORIES

Feet

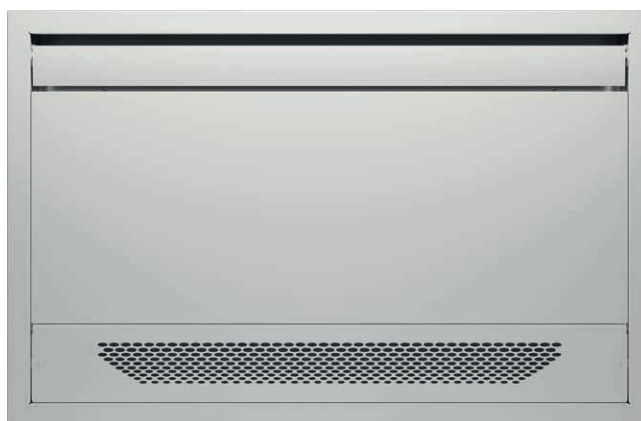
Model	ID	Code
10-20-30-40-50	PAP-F	9071074



Model	YFTS-ECM 10	YFTS-ECM 20	YFTS-ECM 30	YFTS-ECM 40	YFTS-ECM 50
D	300	500	700	900	1100

BREEZE frame kit for wall concealed installation

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



The aesthetic frame kit and the recessed box kit must be always combined together; the kits have separate codes because they are supplied in separate packagings.



The accessory can be used only for the YFTS-ECM models, CDV version, sizes 20-30-40. 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.

Technical characteristics of the main components

The aesthetic frame includes:

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

Perimeter frame, front panel and air intake grid made of steel painted with epoxy polyester coat, dried in a furnace at 180 °C, colour RAL 9003.

It is possible to repaint the entire frame of the same color as the wall.

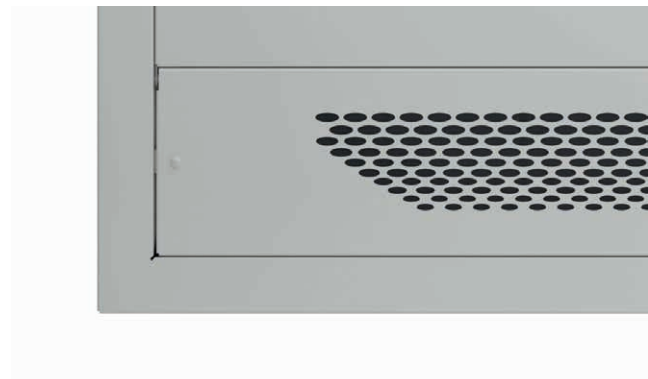


The air supply louvre is made of extruded aluminium and painted with epoxy polyester coat, dried in a furnace at 180 °C, colour RAL 9003.



The air intake grid is fixed to the frame by using a simple and fast connecting system.

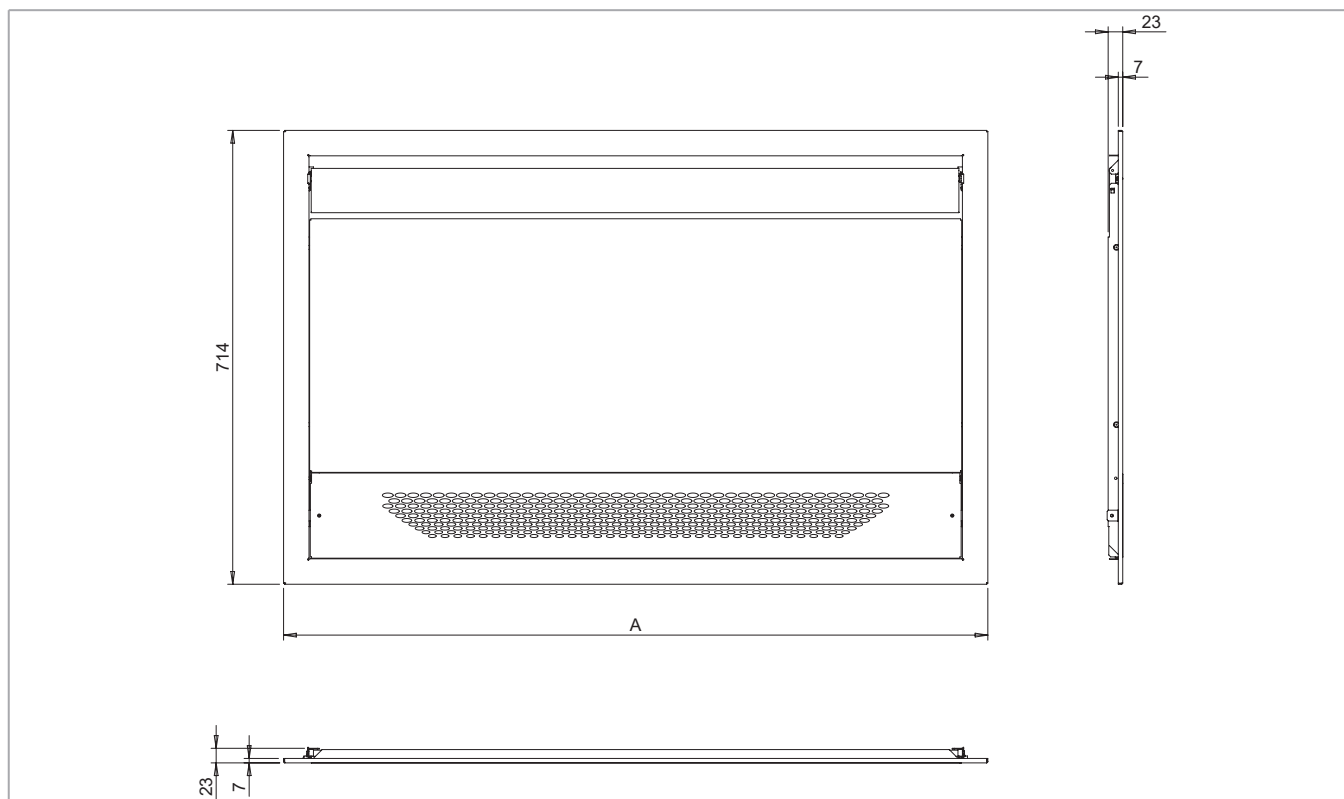
The grid can be easily removed to clean the filter and the inner casing.



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



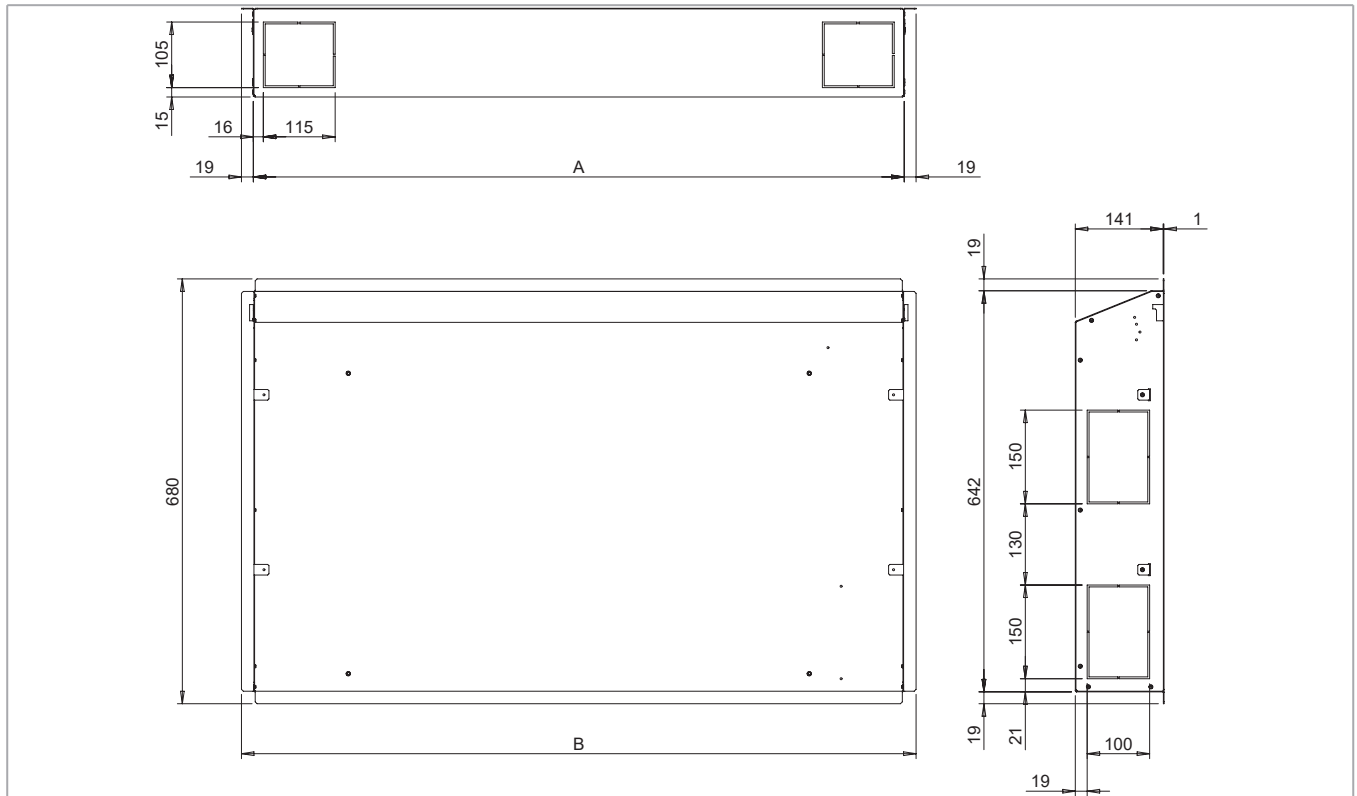
Aesthetic frame dimensions



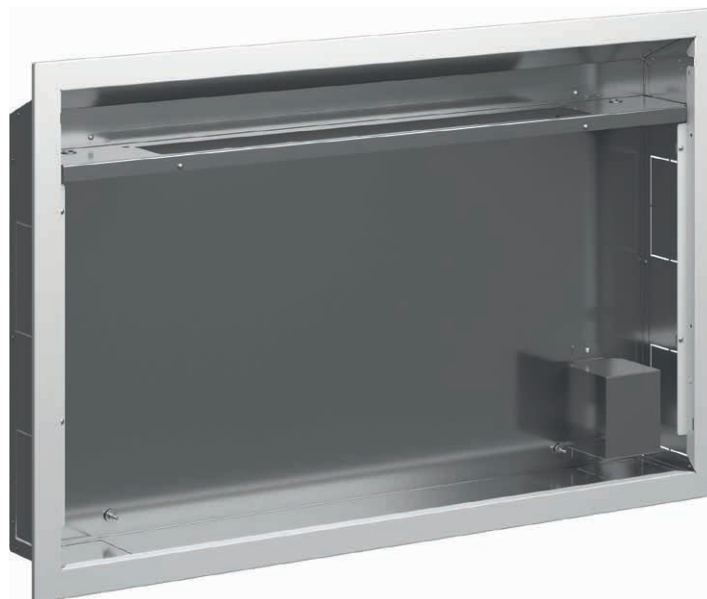
Model	ID	Code	A mm
YFTS-ECM 20	CBF-A	9071162	908
YFTS-ECM 30	CBF-B	9071163	1108
YFTS-ECM 40	CBF-C	9071164	1308



Recessed box dimensions



Model	ID	Code	A mm	B mm
YFTS-ECM 20	IBF 2	9071152	842	880
YFTS-ECM 30	IBF 3	9071153	1042	1080
YFTS-ECM 40	IBF 4	9071154	1242	1280





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