CF-V 31-242

VERTICAL WATER DUCTABLE TERMINAL UNIT WITH DECORATIVE CABINET

CF-V 31 - 242 (ACQUA)

Size	Cooling [kW]	Heating [kW]
31	13,6	26,6
41	19,1	36,7
51	21,6	42,4
71	27,9	53,1
91	36,9	72,4
101	44,0	86,0
121	48,7	94,7
142	65,5	126
182	75,4	144
202	83,6	159
242	89,0	174

REPLACE: BT06E005GB-00

The CF-V series vertical indoor units (with 4-row water coil), designed for installation directly in the room, are connected to condensing units for the construction of air-conditioning systems in offices, banks, shops, homes, etc.
Special care has been paid to reducing noise, using dual intake centrifugal fans operating at low speed: low air flow speed. Internal sound-proofing on the entire unit. The high static performance available allows the use of extensive ducting.
The air intake (in the standard configuration) is through the front grill. In addition, configurations are available with intake from the floor and the rear (see configurations)

BT06E005GB-01

STANDARD UNIT SPECIFICATIONS

STRUCTURE
Structure made from electric-welded painted «ALUZINK», providing excellent mechanical characteristics and extensive corrosion strength.

PANELLING
Pre-painted steel-plate external paneling, easily removable for trouble-free access to internal components. The air handling section is completely lined with Class 1 fire resistant material providing optimum heat insulation and acoustic isolation.

INTERNAL EXCHANGER
Finned exchanger, made from copper pipes arranged in staggered rows and mechanically expanded for better adherence to the collar of the fins. The fins are made from aluminium with a special corrugated surface, set a suitable distance apart to ensure maximum heat exchange efficiency.

FAN
Dual intake centrifugal fan, directly coupled, motor with external rotor, located in the centre of the fan in an aerodynamically optimum position and suspended on antivibration dampers. Forward blades for maximum efficiency and low noise, statically- and dynamically-balanced according to the ISO 1940 standards, section 6.3. The scroll, the rotor and the frame are made from galvanized steel plate (sendzimir).
For sizes from 81 to 242 fan driven by an electromotor with belt and adjustable pulley system.

FILTRATION
Flat filter, made up of a galvanized plate frame with galvanized and electric-welded protective mesh, and regenerable filtering media made from polyester fibre sized with synthetic resins. G4 efficiency according to CEN-EN 779 standard (Eurovent class EU4/5 - average efficiency 90.1% ASHRAE 52-76 Atm). Self-extinguishing (resistance to fire class 1 - DIN 53438).

TRAY
Condensate tray made out of thermoformed ABS (sizes 31-121), or in galvanized steel (sizes 142-242). Equipped with conveyable condensate drain

ELECTRICAL PANEL
Terminal block for motor connection

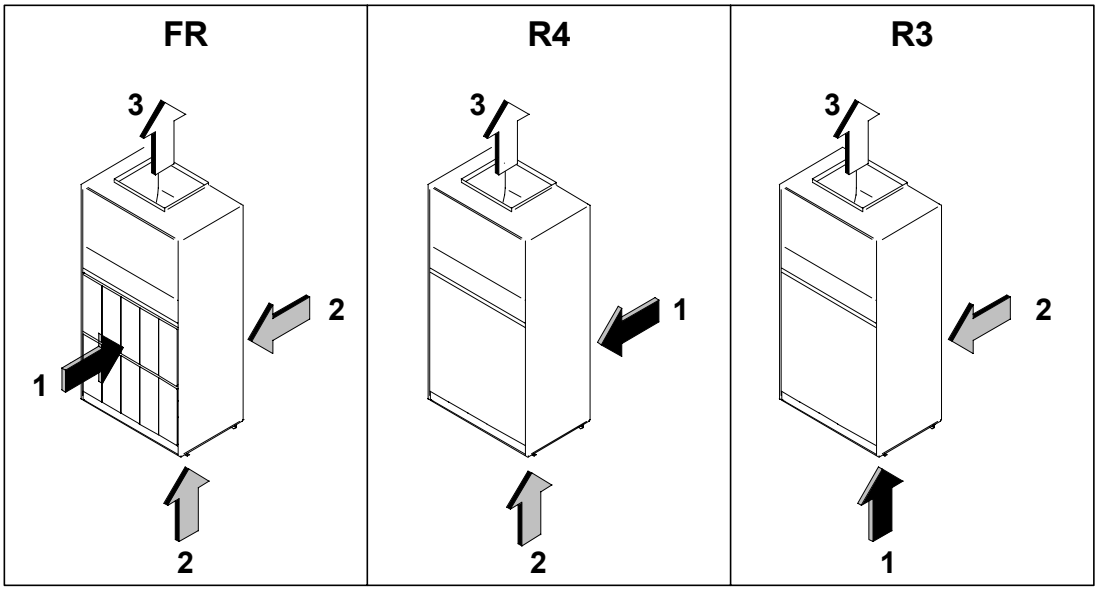
ELECTRIC MOTOR
- Electrical motor connected to fan by belt/pulley system, fitted for control through inverter

ACCESSORIES
- 2 rows hot water coil
- electric heaters.
- Front air discharge plenum
- Air discharge plenum on three sides
- Electronic version with 3-speed board for the fan
(Sizes 31-41-51-71)
- Electronic version with control board HID-S1 thermostats.
- CLIVET TALK TERMINAL electronic for HID-T2 or HID-T3 thermostats
(ELFOControl)
- Larger outlet electric fan motor
(sizes 91-101-121-142-182-202-242)

- Double-speed motor
(sizes 91-101-121-142-182-202-242)

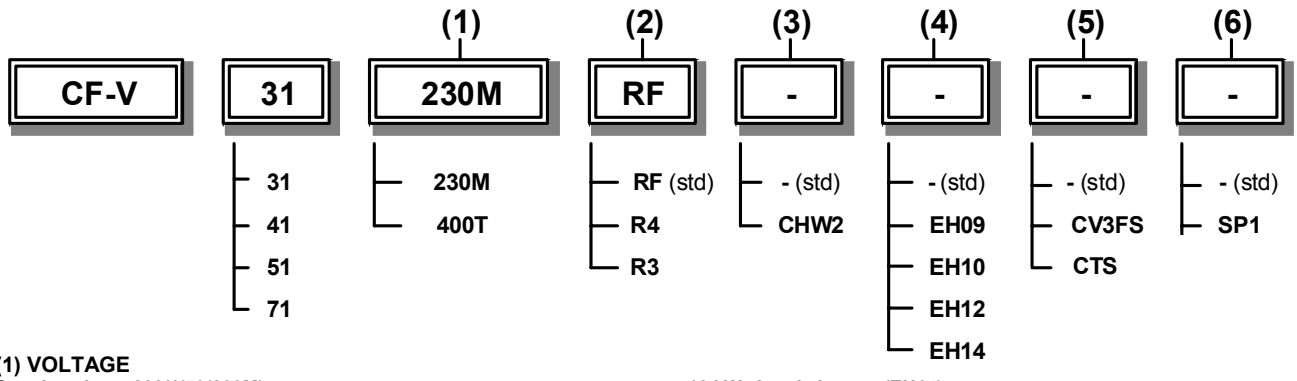
- HID-S1 room electronic control
- HID-T2 electronic ambient control
- HID-T3 electronic ambient control
- Ambient air temperature remote probe (for HID-S1 thermostat)
- RS485 remote communication serial port
- Wireless serial for wireless remote control

CONFIGURATION CODE



(FR)Front air inlet
(R4)Floor air inlet
(R3)Rear air inlet
(1)Ambient air intake
(2)Fresh air intake
(3)upflow versions

CONFIGURATION CODE



(1) VOLTAGE
Supply voltage 230/1/50(230M)
Standard power supply
Supply voltage 400/3/50 without neutral(400T)

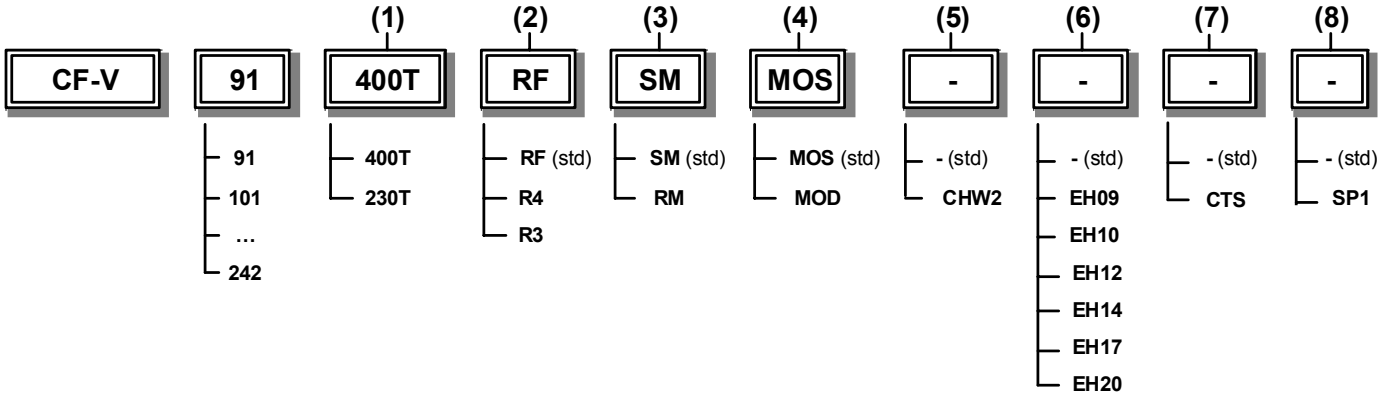
(2) INTAKE
Floor air inlet(R3)
Front air inlet(RF)
Standard Version
Rear air inlet(R4)

(5) HOT WATER COIL
2 rows hot water coil(CHW2)
Hot water coil: not required(-) standard

(6) PREHEATING ELECTRIC HEATERS
4,5 kW electric heaters(EH09)
(Sizes 31-41-51-71)
6 kW electric heaters(EH10)
(sizes from 41 to 71)
9 kW electric heaters(EH12)
(Sizes 31-41-51-71)
12 kW electric heaters(EH14)
(sizes from 41 to 71)
18 kW electric heaters(EH17)
(size 71)

(7) ELECTRONIC VERSION
Electric version: not required(-) standard
Electronic version with 3-speed board for the fan(CV3FS)
(Sizes 31-41-51-71)
CLIVET TALK TERMINAL electronic for HID-T2 or HID-T3 thermostats (ELFOControl)(CTS)

(8) REMOTE COMMUNICATION SERIAL PORT
Remote communication serial port: not required(-) standard
RS485 remote communication serial port(SP1)
serial port with MODBUS (RS 485) output for remote communication**Heating**



(1) VOLTAGE
Supply voltage 230/3/50(230T)
Supply voltage 400/3/50 without neutral(400T)
Standard power supply
(sizes 91-101-121-142-182-202-242)

(2) INTAKE
Floor air inlet(R3)
Front air inlet(RF)
Standard Version
Rear air inlet(R4)

(3) AIR FLOW
Standard air outlet flow-rate(SM)
Reduced air outlet flow-rate(RM)

(4) MOTOR SPECIFICATIONS
Double-speed motor(MOD)
Standard motor(MOS)

(5) HOT WATER COIL
2 rows hot water coil(CHW2)
Hot water coil: not required(-) standard

(6) PREHEATING ELECTRIC HEATERS
Heating electric heaters: not required(-) standard
4,5 kW electric heaters(EH09)
(sizes 91-101-121-142-182-202-242)
6 kW electric heaters(EH10)
(sizes 91-101-121-142-182-202-242)
9 kW electric heaters(EH12)
(sizes 91-101-121-142-182-202-242)
12 kW electric heaters(EH14)
(sizes 91-101-121-142-182-202-242)
18 kW electric heaters(EH17)
(sizes 91-101-121-142-182-202-242)
24 kW electric heaters(EH20)
(sizes from 142 to 242)

(7) ELECTRONIC VERSION
Electric version: not required(-)standard
CLIVET TALK TERMINAL electronic for HID-T2 or HID-T3 thermostats (ELFOControl)(CTS)

(8) REMOTE COMMUNICATION SERIAL PORT
Remote communication serial port: not required(-) standard
RS485 remote communication serial port(SP1)
serial port with MODBUS (RS 485) output for remote communication

GENERAL TECHNICAL SPECIFICATIONS

Size			31	41	51	71	91	101	121	142	182	202	242
COOLING													
Cooling capacity	1	kW	13,6	19,1	21,6	27,9	36,9	44	48,7	65,5	75,4	83,6	89
Sensible capacity	1	kW	9,82	13,7	15,7	20,3	26,5	31,8	35,6	47,1	54,9	60,2	64,9
Total power input	1	kW	0,3	0,3	0,5	0,6	0,8	1,1	1,5	1,5	2,2	2,2	3
HEATING													
Heat output	2	kW	26,6	36,7	42,4	53,1	72,4	86	94,7	125,9	143,8	159,1	174
INTERNAL EXCHANGER													
Front surface		m2	0,3	0,4	0,4	0,6	0,8	0,9	0,9	1,4	1,4	1,6	1,6
Number of rows		Nr	4	4	4	4	4	4	4	4	4	4	4
Fin spacing		mm	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
Water content		l	4	5,39	5,39	6,78	9,22	11,1	11,1	16,7	16,7	18,5	18,5
Water flow-rate		l/s	0,6	0,85	0,97	1,2	1,75	1,97	2,16	2,83	3,23	3,6	3,88
Pressure drop		kPa	24	29	36	24	38	26	30	20	25	33	38
AIR HANDLING SECTION FANS (OUTLET)													
Type of fans	3		CGF	CGF	CGF	CGF	CGF	CGF	CGF	CGF	CGF	CGF	CGF
Number of fans		Nr	1	1	1	2	1	1	1	2	2	2	2
Air flow	4	l/s	569	778	944	1166	1597	1889	2167	2638	3194	3472	3888
Installed unit power	5	kW	0,25	0,25	0,52	0,6	0,75	1,1	1,5	1,5	2,2	2,2	3
Max outside static pressure	6	Pa	85	93	80	70	140	170	180	140	115	145	180
CONNECTIONS													
Water fittings			1"	1"	1"	1"	1"1/4	1"1/4	1"1/4	1"1/2	1"1/2	2"	2"
Condensate discharge			25	25	25	25	25	25	25	25	25	25	25
POWER SUPPLY													
Standard power supply		V	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
DIMENSIONS													
Length		mm	650	850	850	1050	1050	1250	1250	1870	1870	2070	2070
Depth		mm	500	500	500	500	670	670	670	670	670	670	670
Height		mm	1700	1700	1700	1700	2000	2000	2000	2000	2000	2000	2000
STANDARD UNIT WEIGHTS													
Shipping weight		kg	106	127	133	150	195	220	225	260	270	300	305
Operating weight		kg	96	117	123	140	185	210	215	250	260	290	295

(1) water inlet 7°C and outlet 12°C
Ambient temperature 27°C/19.5 WB
relative humidity 50%
(2) water inlet 70°C and outlet 60°C
ambient temperature 20°C DB
relative humidity 50%

(3) CFG = centrifugal fan
(4) Max outside static pressure
(5) Standard motor
(6) rated flow, maximum speed, including the air filter

Voltage: 230/1/50

ELECTRICAL DATA

Size			31	41	51	71
F.L.A. - FULL LOAD CURRENT AT MAX ADMISSIBLE CONDITIONS						
F.L.A. - Total		A	2,1	3,6	4,5	5,7
F.L.I. FULL LOAD POWER INPUT AT MAX ADMISSIBLE CONDITION						
F.L.I. - Total		kW	0,25	0,25	0,52	0,6

Voltage: 400/3/50

ELECTRICAL DATA

Size			91	101	121	142	182	202	242
F.L.A. - FULL LOAD CURRENT AT MAX ADMISSIBLE CONDITIONS									
F.L.A. - Total		A	2,2	3,1	4	4	5,5	5,5	7,5
F.L.I. FULL LOAD POWER INPUT AT MAX ADMISSIBLE CONDITION									
F.L.I. - Total		kW	0,75	1,1	1,5	1,5	2,2	2,2	3

SOUND LEVELS

Acoustic configuration: Standard (ST)

Size	Sound Power Level (dB)								Sound pressure level	Sound power level
	Octave band (Hz)									
	63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
31	75	70	59	61	56	56	47	36	48	63
41	73	74	62	62	57	57	49	38	49	65
51	74	75	62	63	59	59	52	41	50	66
71	76	73	66	63	62	56	57	53	51	67
91	81	78	69	66	62	61	53	44	53	69
101	84	80	72	68	65	65	57	48	56	72
121	87	82	74	70	67	67	60	51	58	74
142	85	86	71	70	67	66	58	48	58	75
182	87	87	73	73	70	69	62	53	60	77
202	89	89	76	75	72	71	64	55	62	79
242	92	92	78	77	74	74	66	58	64	81

The sound levels refer to the unit at full load,in the rated test conditions and with available head of 30Pa. The sound pressure level refers to unit with ductable outlet and it is measured at a distance of 1m from the external surface of the units.

OPERATING LIMITS (COOLING)

Size				31	41	51	71	91	101	121	142	182	202	242
Min air inlet temperature (W.B.)			°C	2	2	2	2	2	2	2	2	2	2	2
Max. air temperature inlet (D.B.)			°C	40	40	40	40	40	40	40	40	40	40	40
Max water inlet temperature			°C	80	80	80	80	80	80	80	80	80	80	80
Min. water outlet temperature			°C	6	6	6	6	6	6	6	6	6	6	6

OPERATING LIMITS (HEATING)

		°C	80	80	80	80	80	80	80	80	80	80	80
		°C	30	30	30	30	30	30	30	30	30	30	30
		°C	40	40	40	40	40	40	40	40	40	40	40
		°C	2	2	2	2	2	2	2	2	2	2	2

DB = dry bulb
WB = wet bulb
- 16 bar water side high head-pressure

COOLING PERFORMANCE

Size	Ta (°C) DB/WB	TEMPERATURE INLET/OUTLET (°C)									
		6 / 11		7 / 12		9 / 14		10 / 15		13 / 18	
		kWf	kWs	kWf	kWs	kWf	kWs	kWf	kWs	kWf	kWs
31	22 / 15,4	8,64	7,76	7,72	7,17	6,06	6,00	5,33	5,33	3,52	3,52
	24 / 17	10,9	8,90	9,73	8,32	7,64	7,15	6,75	6,57	4,67	4,67
	26 / 18,6	13,5	9,92	12,1	9,35	9,69	8,19	8,64	7,61	6,08	5,87
	27 / 19,5	15,0	10,4	13,6	9,82	11,1	8,67	9,91	8,09	6,99	6,37
	28 / 20,3	16,5	10,9	15,1	10,3	12,4	9,17	11,2	8,60	7,86	6,88
	30 / 21,9	19,6	11,9	18,2	11,3	15,4	10,2	14,0	9,63	9,80	7,93
41	22 / 15,4	12,1	10,8	10,8	9,99	8,46	8,38	7,44	7,44	4,97	4,97
	24 / 17	15,3	12,4	13,7	11,6	10,8	9,96	9,49	9,15	6,53	6,53
	26 / 18,6	18,9	13,8	17,0	13,0	13,7	11,4	12,2	10,6	8,48	8,18
	27 / 19,5	21,0	14,5	19,1	13,7	15,6	12,1	14,0	11,3	9,75	8,87
	28 / 20,3	23,1	15,1	21,1	14,3	17,4	12,8	15,7	12,0	11,0	9,58
	30 / 21,9	27,4	16,5	25,5	15,7	21,6	14,2	19,7	13,4	13,7	11,0
51	22 / 15,4	13,8	12,4	12,3	11,5	9,71	9,63	8,55	8,55	5,66	5,66
	24 / 17	17,4	14,2	15,5	13,3	12,2	11,5	10,8	10,5	7,50	7,50
	26 / 18,6	21,4	15,9	19,3	14,9	15,4	13,1	13,8	12,2	9,73	9,44
	27 / 19,5	23,9	16,6	21,6	15,7	17,6	13,9	15,8	13,0	11,2	10,2
	28 / 20,3	26,2	17,4	23,9	16,5	19,7	14,7	17,7	13,8	12,5	11,0
	30 / 21,9	31,1	19,0	28,9	18,1	24,4	16,3	22,2	15,4	15,6	12,7
71	22 / 15,4	17,7	16,0	15,9	14,8	12,5	12,4	11,0	11,0	7,26	7,26
	24 / 17	22,4	18,4	20,0	17,2	15,7	14,8	13,9	13,6	9,67	9,67
	26 / 18,6	27,6	20,5	24,8	19,3	19,9	16,9	17,8	15,7	12,6	12,2
	27 / 19,5	30,8	21,5	27,9	20,3	22,7	17,9	20,3	16,7	14,4	13,2
	28 / 20,3	33,8	22,5	30,9	21,3	25,4	19,0	22,9	17,8	16,2	14,2
	30 / 21,9	40,2	24,6	37,3	23,4	31,6	21,1	28,7	19,9	20,1	16,4
91	22 / 15,4	23,6	21,0	21,0	19,4	16,5	16,3	14,5	14,5	9,69	9,69
	24 / 17	29,7	24,1	26,5	22,5	20,9	19,4	18,4	17,8	12,8	12,8
	26 / 18,6	36,5	26,8	32,9	25,3	26,4	22,2	23,6	20,6	16,6	16,0
	27 / 19,5	40,7	28,1	36,9	26,5	30,1	23,5	27,0	21,9	19,0	17,3
	28 / 20,3	44,6	29,4	40,8	27,9	33,6	24,8	30,3	23,3	21,4	18,7
	30 / 21,9	52,9	32,1	49,1	30,6	41,7	27,5	37,9	26,0	26,7	21,5
101	22 / 15,4	28,0	25,2	25,0	23,3	19,7	19,5	17,3	17,3	11,5	11,5
	24 / 17	35,3	28,8	31,5	27,0	24,7	23,2	21,9	21,3	15,2	15,2
	26 / 18,6	43,5	32,1	39,1	30,3	31,3	26,5	27,9	24,7	19,7	19,1
	27 / 19,5	48,5	33,7	44,0	31,8	35,7	28,1	32,0	26,2	22,6	20,7
	28 / 20,3	53,2	35,2	48,6	33,4	40,0	29,7	36,0	27,9	25,4	22,3
	30 / 21,9	63,2	38,4	58,7	36,6	49,7	33,0	45,2	31,2	31,7	25,7
121	22 / 15,4	31,0	28,2	27,8	26,0	22,0	21,8	19,4	19,4	12,7	12,7
	24 / 17	39,1	32,3	34,9	30,2	27,5	26,0	24,4	23,9	17,0	17,0
	26 / 18,6	48,2	36,0	43,3	33,9	34,8	29,7	31,0	27,6	22,1	21,4
	27 / 19,5	53,7	37,7	48,7	35,6	39,6	31,5	35,5	29,4	25,3	23,2
	28 / 20,3	58,9	39,4	53,8	37,3	44,3	33,2	39,9	31,2	28,3	25,0
	30 / 21,9	70,1	43,0	65,0	41,0	54,9	36,9	49,9	34,9	35,1	28,9

The performance refers to rated air flow.
DB = dry bulb
WB = wet bulb
Ta = air intake temperature
kWf = Cooling capacity in kW
kWs = sensible cooling capacity (kW)

COOLING PERFORMANCE

Size	Ta (°C) DB/WB	TEMPERATURE INLET/OUTLET (°C)									
		6 / 11		7 / 12		9 / 14		10 / 15		13 / 18	
		kWf	kWs	kWf	kWs	kWf	kWs	kWf	kWs	kWf	kWs
142	22 / 15,4	41,7	37,2	37,2	34,4	29,1	28,8	25,6	25,6	17,0	17,0
	24 / 17	52,6	42,7	46,9	39,9	36,8	34,3	32,5	31,5	22,5	22,5
	26 / 18,6	64,9	47,6	58,3	44,8	46,7	39,3	41,6	36,5	29,2	28,2
	27 / 19,5	72,3	49,8	65,5	47,1	53,2	41,6	47,7	38,8	33,6	30,6
	28 / 20,3	79,3	52,2	72,4	49,4	59,7	44,0	53,8	41,2	37,8	33,0
	30 / 21,9	94,1	57,0	87,5	54,3	74,2	48,9	67,5	46,2	47,2	38,1
182	22 / 15,4	47,9	43,5	42,9	40,2	33,9	33,7	29,9	29,9	19,7	19,7
	24 / 17	60,5	49,8	54,0	46,6	42,6	40,1	37,7	36,8	26,2	26,2
	26 / 18,6	74,6	55,5	67,1	52,3	53,8	45,9	48,0	42,6	34,0	33,0
	27 / 19,5	83,2	58,1	75,4	54,9	61,3	48,5	55,0	45,4	39,0	35,8
	28 / 20,3	91,3	60,8	83,3	57,7	68,6	51,3	61,8	48,1	43,8	38,6
	30 / 21,9	108,5	66,4	100,7	63,3	85,2	57,0	77,5	53,9	54,3	44,5
202	22 / 15,4	53,2	47,7	47,5	44,1	37,3	37,0	32,9	32,9	21,9	21,9
	24 / 17	67,3	54,6	60,0	51,1	47,1	44,0	41,5	40,4	27,9	27,9
	26 / 18,6	82,8	60,8	74,5	57,3	59,6	50,3	52,9	46,8	36,1	36,1
	27 / 19,5	92,2	63,7	83,6	60,2	67,8	53,2	60,6	49,7	41,7	39,3
	28 / 20,3	100,9	66,6	92,2	63,2	75,9	56,2	68,2	52,8	47,2	42,4
	30 / 21,9	119,3	72,7	111,0	69,3	94,1	62,5	85,6	59,1	59,9	48,8
242	22 / 15,4	56,7	51,5	50,8	47,6	40,2	39,9	35,5	35,5	23,5	23,5
	24 / 17	71,5	59,0	63,9	55,1	50,4	47,5	44,6	43,7	31,1	31,1
	26 / 18,6	88,1	65,6	79,3	61,8	63,6	54,3	56,8	50,5	40,3	39,2
	27 / 19,5	98,2	68,7	89,0	64,9	72,4	57,4	65,0	53,7	46,2	42,5
	28 / 20,3	107,6	71,8	98,3	68,1	81,0	60,7	73,0	57,0	51,8	45,8
	30 / 21,9	127,7	78,3	118,7	74,7	100,5	67,4	91,4	63,7	64,2	52,7

The performance refers to rated air flow.
DB = dry bulb
WB = wet bulb
Ta = air intake temperature
kWf = Cooling capacity in kW
kWs = sensible cooling capacity (kW)

HEATING PERFORMANCE

Size	Ta (°C)	EXCHANGER WATER INLET TEMPERATURE (°C)				
		40	50	60	70	80
		kWt	kWt	kWt	kWt	kWt
31	10	14,6	20,9	27,1	33,3	39,5
	15	11,5	17,6	23,8	29,9	36,0
	18	9,54	15,7	21,8	27,9	33,9
	20	8,25	14,4	20,5	26,6	32,6
	22	6,95	13,2	19,3	25,3	31,3
	25	4,99	11,2	17,4	23,4	29,3
41	10	20,3	28,8	37,3	45,8	54,3
	15	15,9	24,4	32,8	41,2	49,5
	18	13,3	21,7	30,1	38,4	46,7
	20	11,5	20,0	28,4	36,7	44,8
	22	9,74	18,2	26,6	34,9	43,0
	25	7,04	15,6	24,0	32,3	40,3
51	10	23,3	33,2	43,2	53,0	62,9
	15	18,3	28,1	37,9	47,6	57,3
	18	15,2	25,0	34,8	44,5	54,1
	20	13,2	23,0	32,7	42,4	51,9
	22	11,1	21,0	30,7	40,3	49,8
	25	7,99	17,9	27,7	37,3	46,7
71	10	29,0	41,6	54,1	66,6	78,9
	15	22,8	35,2	47,5	59,7	71,9
	18	19,0	31,3	43,6	55,8	67,9
	20	16,4	28,8	41,0	53,1	65,2
	22	13,8	26,2	38,5	50,6	62,5
	25	9,89	22,4	34,7	46,8	58,6
91	10	39,8	56,9	73,7	90,2	106,3
	15	31,5	48,3	64,9	81,2	97,3
	18	26,4	43,2	59,7	75,9	91,8
	20	23,0	39,8	56,3	72,4	88,2
	22	19,4	36,4	52,9	69,0	84,5
	25	14,1	31,4	48,0	63,8	79,0
101	10	46,9	67,3	87,5	107,5	127,3
	15	36,9	57,0	76,8	96,5	116,1
	18	30,8	50,8	70,6	90,1	109,5
	20	26,7	46,7	66,5	86,0	105,2
	22	22,5	42,7	62,5	81,9	100,9
	25	16,2	36,7	56,5	75,8	94,6
121	10	51,5	74,1	96,4	118,6	140,5
	15	40,5	62,6	84,6	106,4	128,2
	18	33,8	55,8	77,6	99,3	120,9
	20	29,2	51,2	73,0	94,7	116,2
	22	24,6	46,7	68,5	90,1	111,4
	25	17,6	39,9	61,8	83,3	104,4

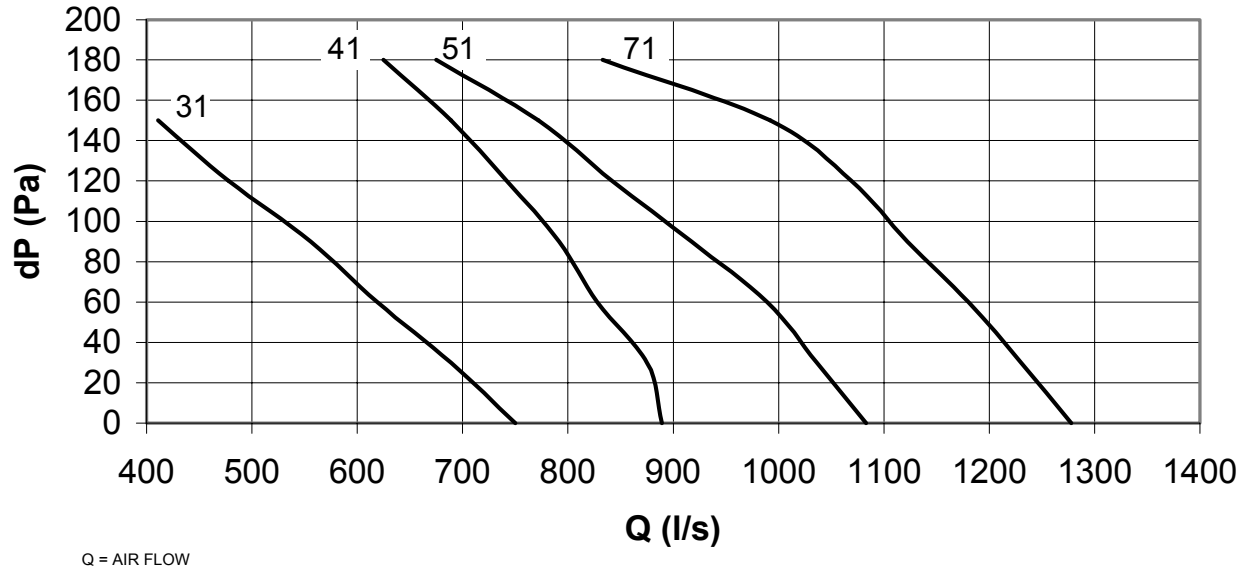
The performance refers to rated air flow.
difference between inlet / outlet water temperature = 10°C
Ta = air intake temperature
kWt = Heating capacity (kW)

HEATING PERFORMANCE

Size	Ta (°C)	EXCHANGER WATER INLET TEMPERATURE (°C)				
		40	50	60	70	80
		kWt	kWt	kWt	kWt	kWt
142	10	68,9	98,6	128,1	157,4	186,6
	15	54,4	83,6	112,6	141,4	170,1
	18	45,4	74,5	103,4	132,1	160,5
	20	39,4	68,5	97,4	125,9	154,1
	22	33,3	62,5	91,3	119,8	147,9
	25	23,9	53,5	82,4	110,8	138,6
182	10	89,2	117,2	147,6	180,3	215,6
	15	72,0	99,7	129,6	161,9	196,4
	18	61,9	89,3	119,0	151,0	185,3
	20	55,2	82,5	112,0	143,8	177,9
	22	48,5	75,7	105,1	136,8	170,7
	25	38,6	65,6	94,8	126,3	160,0
202	10	87,8	125,0	162,1	199,0	235,9
	15	69,0	105,7	142,3	178,8	215,2
	18	57,5	94,2	130,7	166,9	203,0
	20	49,8	86,6	123,0	159,1	194,9
	22	42,1	79,0	115,4	151,4	187,0
	25	30,4	67,6	104,2	140,1	175,2
242	10	95,6	136,4	177,0	217,6	258,0
	15	75,0	115,3	155,5	195,5	235,3
	18	62,5	102,7	142,7	182,5	222,0
	20	54,1	94,4	134,4	174,0	213,3
	22	45,6	86,1	126,0	165,6	204,6
	25	32,9	73,6	113,7	153,1	191,8

The performance refers to rated air flow.
difference between inlet / outlet water temperature = 10°C
Ta = air intake temperature
kWt = Heating capacity (kW)

Performances of supply air fans



Q = AIR FLOW
DP = PRESSURE DROP

PERFORMANCES OF SUPPLY AIR FANS

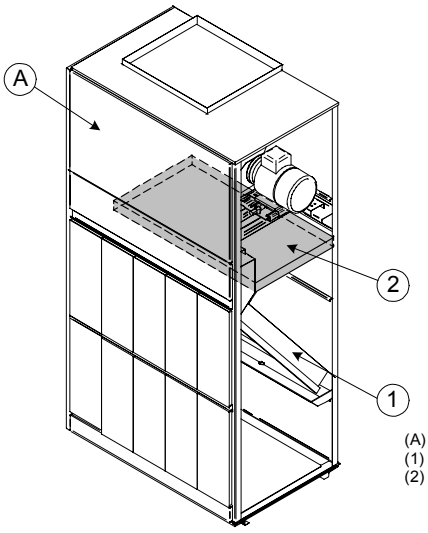
AIR FLOW: STANDARD

EXTERNAL STATIC PRESSURE (Pa)			10	30	60	90	120	150	180	210	240
91	Air flow	l/s	1597	1597	1597	1597	1597	1597	1597	1597	1597
	Fan RPM	rpm	395	445	495	540	590	630	670	710	750
	Total input	kW	0,38	0,44	0,52	0,61	0,69	0,77	0,87	0,96	1,07
	Motor input	kW	0,75	0,75	0,75	0,75	0,75	1,1	1,1	1,1	1,1
	Transmission code (fan)		T280.9.2.42			T224.9.2.37		T200.9.2.35			
101	Air flow	l/s	1889	1889	1889	1889	1889	1889	1889	1889	1889
	Fan RPM	rpm	435	475	520	560	595	640	680	710	755
	Total input	kW	0,56	0,63	0,69	0,81	0,9	1,01	1,12	1,2	1,38
	Motor input	kW	1,1	1,1	1,1	1,1	1,1	1,1	1,5	1,5	1,5
	Transmission code (fan)		T280.9.2.43			T224.9.2.38			T200.9.2.35		
121	Air flow	l/s	2167	2167	2167	2167	2167	2167	2167	2167	2167
	Fan RPM	rpm	480	520	560	590	630	670	695	730	765
	Total input	kW	0,8	0,89	0,98	1,09	1,18	1,32	1,43	1,55	1,66
	Motor input	kW	1,5	1,5	1,5	1,5	1,5	1,5	1,5	2,2	2,2
	Transmission code (fan)		T250.9.2.40				T224.9.2.37			T250.9.2.42	
142	Air flow	l/s	-	2639	2639	2639	2639	2639	2639	2639	-
	Fan RPM	rpm	-	630	682	735	787	838	887	935	-
	Total input	kW	-	0,98	1,13	1,26	1,39	1,53	1,67	1,81	-
	Motor input	kW	-	1,5	1,5	1,5	1,5	2,2	2,2	2,2	-
	Transmission code (fan)		-	T280.9.2.47			T224.9.2.42				-
182	Air flow	l/s	3194	3194	3194	3194	3194	3194	3194	3194	3194
	Fan RPM	rpm	707	751	796	841	884	928	970	1012	1053
	Total input	kW	1,62	1,76	1,92	2,1	2,22	2,38	2,54	2,71	2,87
	Motor input	kW	2,2	2,2	2,2	2,2	3	3	3	3	3
	Transmission code (fan)		T250.9.2.46				T200.9.2.39				
202	Air flow	l/s	-	3472	3472	3472	3472	3472	3472	3472	3472
	Fan RPM	rpm	-	574	619	663	706	747	787	826	864
	Total input	kW	-	1,39	1,58	1,78	1,99	2,22	2,42	2,65	2,89
	Motor input	kW	-	2,2	2,2	2,2	2,2	3	3	3	3
	Transmission code (fan)		-	T300.9.2.50				T250.9.2.46			
242	Air flow	l/s	-	3889	3889	3889	3889	3889	3889	3889	3889
	Fan RPM	rpm	-	628	669	709	748	786	823	859	895
	Total input	kW	-	1,88	2,09	2,31	2,53	2,77	2,99	3,25	3,5
	Motor input	kW	-	3	3	3	3	3	3	4	4
	Transmission code (fan)		-	T280.9.2.48				T224.9.2.41			

PERFORMANCES OF SUPPLY AIR FANS

AIR FLOW: REDUCED

EXTERNAL STATIC PRESSURE (Pa)			10	30	60	90	120	150	180	210	240
91	Air flow	l/s	1347	1347	1347	1347	1347	1347	1347	1347	1347
	Fan RPM	rpm	370	420	475	530	575	630	675	725	760
	Total input	kW	0,24	0,32	0,39	0,44	0,52	0,62	0,7	0,78	0,87
	Motor input	kW	0,75	0,75	0,75	0,75	0,75	0,75	0,75	1,1	1,1
	Transmission code (fan)		T300.9.2.44			T224.9.2.37		T200.9.2.35			
101	Air flow	l/s	1611	1611	1611	1611	1611	1611	1611	1611	1611
	Fan RPM	rpm	380	430	480	530	570	615	665	700	740
	Total input	kW	0,35	0,43	0,49	0,59	0,67	0,74	0,85	0,95	1,06
	Motor input	kW	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1
	Transmission code (fan)		T300.9.2.44			T224.9.2.38				T200.9.2.35	
121	Air flow	l/s	1833	1833	1833	1833	1833	1833	1833	1833	1833
	Fan RPM	rpm	430	470	515	555	590	635	675	705	750
	Total input	kW	0,55	0,61	0,68	0,8	0,88	1	1,11	1,18	1,36
	Motor input	kW	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
	Transmission code (fan)		T280.9.2.42				T200.9.2.35				
142	Air flow	l/s	-	2277	2277	2277	2277	2277	2277	2277	-
	Fan RPM	rpm	-	585	647	706	764	819	872	923	-
	Total input	kW	-	0,72	0,83	0,95	1,07	1,19	1,31	1,44	-
	Motor input	kW	-	1,5	1,5	1,5	1,5	1,5	1,5	1,5	-
	Transmission code (fan)		-	T300.9.2.48			T224.9.2.40				-
182	Air flow	l/s	2722	2722	2722	2722	2722	2722	2722	2722	2722
	Fan RPM	rpm	634	685	739	789	839	885	935	978	1025
	Total input	kW	1,07	1,17	1,33	1,45	1,61	1,72	1,89	1,98	2,19
	Motor input	kW	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2
	Transmission code (fan)		T280.9.2.45			T250.9.2.42				T200.9.2.40	
202	Air flow	l/s	-	-	3000	3000	3000	3000	3000	3000	3000
	Fan RPM	rpm	-	-	583	630	678	720	766	807	848
	Total input	kW	-	-	1,18	1,36	1,55	1,75	1,95	2,2	2,38
	Motor input	kW	-	-	2,2	2,2	2,2	2,2	2,2	2,2	3
	Transmission code (fan)		-	-	T315.9.2.52		T250.9.2.46				
242	Air flow	l/s	3333	3333	3333	3333	3333	3333	3333	3333	3333
	Fan RPM	rpm	539	586	633	679	720	762	802	838	879
	Total input	kW	1,19	1,37	1,56	1,75	1,96	2,19	2,4	2,63	2,85
	Motor input	kW	3	3	3	3	3	3	3	3	3
	Transmission code (fan)		T355.9.2.54		T280.9.2.48				T224.9.2.44		



(A) STANDARD UNIT
(1) MAIN WATER COIL
(2) ADDITIONAL WATER COIL

(CHW2 -)2 rows water coil

This section is necessary if the ambient cannot be suitably heated with a heat pump unit. Indeed, under a very harsh winter climate, the external air temperature can go below the min. operating limit of the unit or cause excessive poor performance, thus advising against the installation of heat pump units.
The hot water coil is seated in a suitable compartment inside the unit, as an alternative to the electric heating coil.
This section is made up of a galvanized plate frame, a coil in copper pipes and aluminum fins.

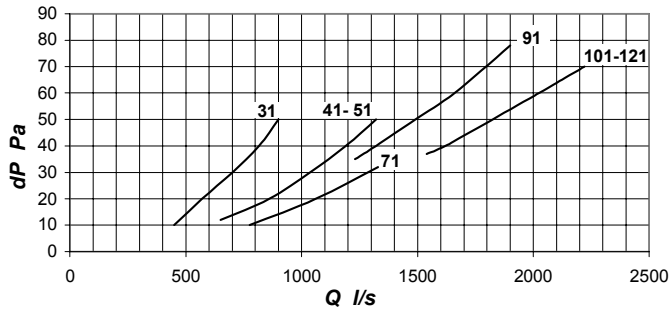
Configuration Detail

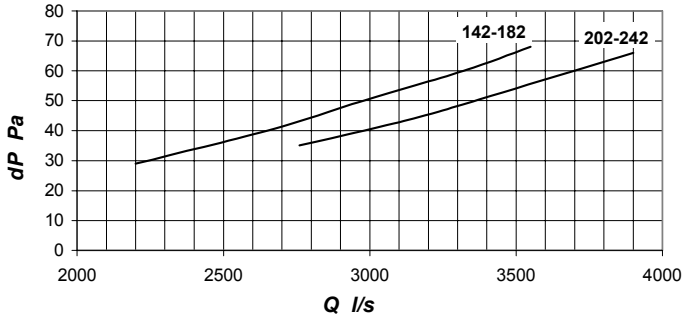
Performances of hot water coil (2 rows)

CF-V	31		41		51		71		91		101		121		142		182		202		242	
	Ti/To (°C)																					
Ta (°C)	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60	80/70	80/60
10	18,1	15,8	25,2	22,3	28,7	25,4	35,3	30,1	46	39,9	56	49,1	60,3	53,1	82,9	71,9	92,4	79,6	101,6	88,9	108,6	94,3
15	16,8	14,4	23,3	20,3	26,7	23,1	32,6	28,3	42,7	36,3	51,7	44,7	56	47,9	76,7	65,2	84,9	72,5	93,9	80,5	99,8	85,3
20	15,3	13	21,4	18,4	24,4	20,8	30	25,5	39	32,6	47,2	40,2	51,1	43,3	70,2	58,8	77,6	65,2	86,4	72,4	91,7	77,2
25	13,8	11,8	19,3	16,3	22	18,4	27,1	22,6	35,3	29,1	42,8	35,9	46,2	38,6	63,1	52	70,5	57,8	77,5	64,2	82,7	68,4

Ta = air intake temperature
Ti/To = water temperature inlet/outlet (°C)

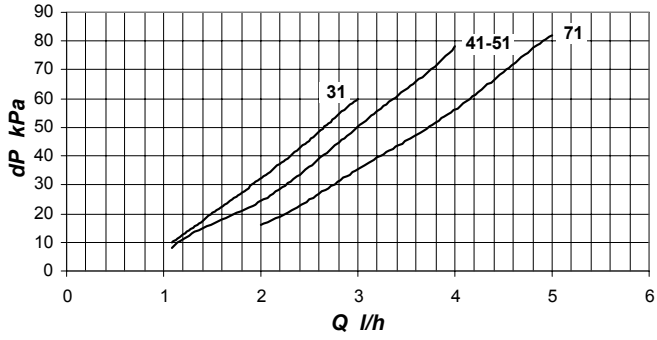
Hot water coil pressure drop: AIR side

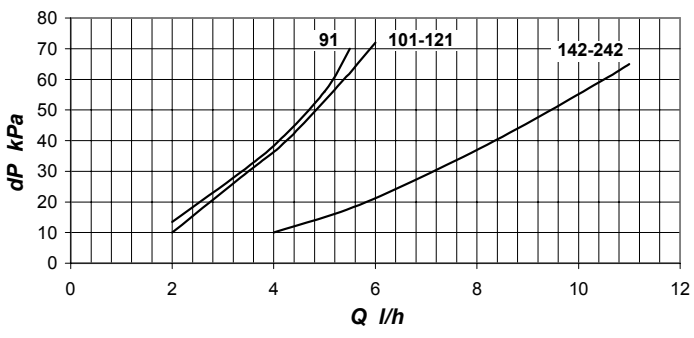




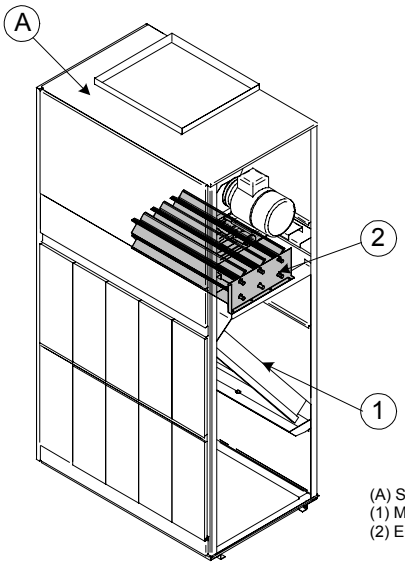
Q = AIR FLOW
DP = PRESSURE DROP

Hot water coil pressure drop: WATER side





Q = WATER FLOW
DP = PRESSURE DROP



(A) STANDARD UNIT
(1) MAIN WATER COIL
(2) ELECTRIC HEATING COIL

(EH.. -)electric heaters.

The heating elements require a 400/3/50. The frame is in galvanized steel and the elements are in aluminium fins. The section is complete with circuit breaker, safety thermostat and PCB for connection to our electronic control.

Configuration Detail

ELECTRIC HEATERS

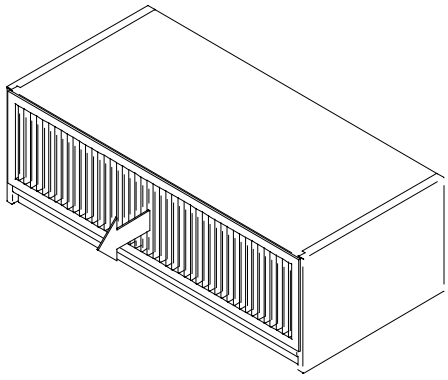
GRANDEZZE	31	41	51	71	91	101	121	142	182	202	242
4,5 kW	X	X	X	X	X	X	X	X	X	X	X
6 kW		X	X	X	X	X	X	X	X	X	X
9 kW	X	X	X	X	X	X	X	X	X	X	X
12 kW		X	X	X	X	X	X	X	X	X	X
18 kW				X	X	X	X	X	X	X	X
24 kW								X	X	X	X

Air discharge plenum

This accessory allows the outlet of the air directly into the room, in two distinct ways

(POF -)Front air discharge plenum

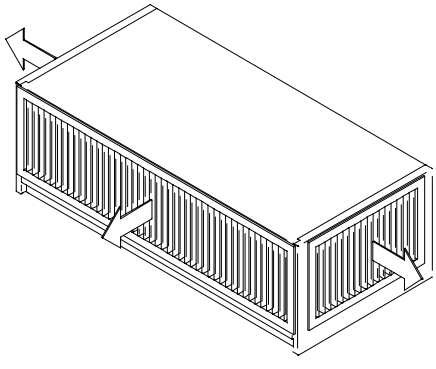
front air supply plenum, with double deflection grille, in painted "aluzink" (RAL7016)



separately supplied accessories

(PO3 -)Air discharge plenum on three sides

three sides air supply plenum with double deflection grilles, in painted "aluzink" (RAL 7016)



separately supplied accessories

(MMF -)Outlet uprated electric motor

(sizes 91-101-121-142-182-202-242)

The uprated electrical motor of supply fan is used when the standard motor capacity is not sufficient to reach extremely high values of external static pressure. The standard electric motor is described in the general technical data, while the "DELIVERY FAN PERFORMANCE" section provides information about the uprated motors, on the basis of the useful static pressure.

Configuration Detail

(MOD -)Double-speed motor

(sizes 91-101-121-142-182-202-242)

The two-speed motor is managed by a manual selector (to be provided for by the client) for the adjustment of the air flow rate of the fan. The double speed is normally used when there are air ducts made of fabric. During the start-up phase, the first speed prevents tears in the fabric ducts. After that, with the second speed the system comes up to normal operating capacity.

Configuration Detail

(CV3FS -)Electronic version with 3-speed board for the fan

(sizes 91-101-121-142-182-202-242)

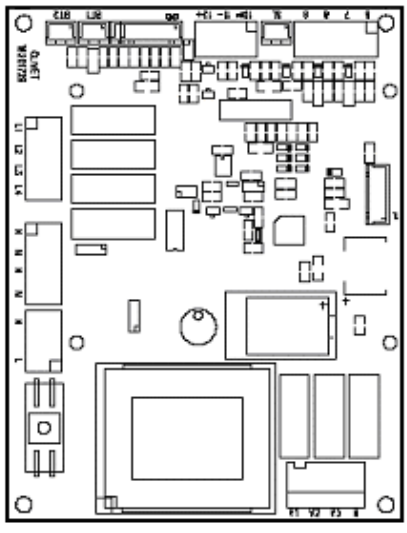
3-speed board for the fan, with the following functions:
(-)3 fan speeds
(-)continuous control by potentiometer
(-)possible thermostat control (not supplied by Clivet) with free contacts for fan ON/OFF command.
(-)ON/OFF by timer clock (not supplied by Clivet)

Configuration Detail

(CTS -)CLIVET TALK TERMINAL electronic for HID-T2 or HID-T3 thermostats(ELFOControl)

This is a card for control of the unit which, in addition to basic functions, allows it to be connected to a network of similar units managed centrally by ELFOControl, which in turn can be connected to a supervisor, moreover it can also manage a linked mini-net ,of maximum 8 units, by RS485 or Wireless serial ports, with a Master-Slave system. This type of electronic card is suited for communicating via RS485 or wireless if connected to SP1 or SPZB devices. The microprocessor control installed in the unit receives operating settings from one of the following devices: HID-T2 - room control for wall installation HID-T3 - room control for wall installation with humidity probe – ELFOControl Its functions are: - control of minimum temperature of system water temperature - manual or automatic control of fan speed - control of ON-OFF water valve - digital input for remote on/off function or winter/summer - control of fan / actuator of external air shutter - on/off control of electrical heating element or cumulative alarm relay. The room temperature probe includes the ClivetTalkTerminalSpace electronics.

The blowers, used in those units, work with a single speed motor and cannot be regulated with trhee speed mode by the electronic board and by the related room thermostat HID-T2, HID-T3.



Configuration Detail

(HID-T2 -)HID-T2 electronic ambient control

The HID-T2 room thermostat makes it possible to interface with the regulation module of units equipped with ClivetTalkTerminal Space electronics and to manage one or more thermostat units.
The room thermostat allows the following functions:
-Setting of desired temperature
- Selection of the three speeds (MIN - MED - MAX) manually or automatically
-On/off
_ Change Summer/winter automatically or manually with digital input
- Selection of economic operation
-Setting of unit operation parameters
-Setting of fan-only mode
-Control of external air shutter and control of motorized air outlet grille, if present
-Management of diagnostics with specific code for type of error
Dimensions: 184X82X27 mm
The thermostat is connected to the unit by means of a shielded twisted pair at a distance of up to 15 m.
For connections to the ELFOControl network, refer to the specific sections.

separately supplied accessories

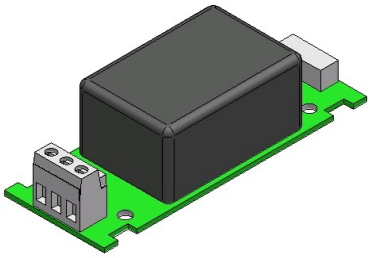
(HID-T3 -)HID-T3 electronic ambient control

The HID-T3 room climate control makes it possible to interface with the regulation module of units equipped with ClivetTalkTerminal Space electronics and to manage one or more thermostat units. The room thermostat allows the following functions:-Setting of desired temperature - Selection of the three speeds (MIN - MED - MAX) manually or automatically-On/off _ Change Summer/winter automatically or manually with digital input- Selection of economic operation-Setting of unit operation parameters-Setting of fan-only mode-Control of external air shutter and control of motorized air outlet grille, if present-Management of humidity probe-Humidity display-Management of diagnostics with specific code for type of error Dimensions: 184X82X27 mmThe thermostat is connected to the unit by means of a shielded twisted pair at a distance of up to 15 m. For connections to the ELFOControl network, refer to the specific sections.

separately supplied accessories

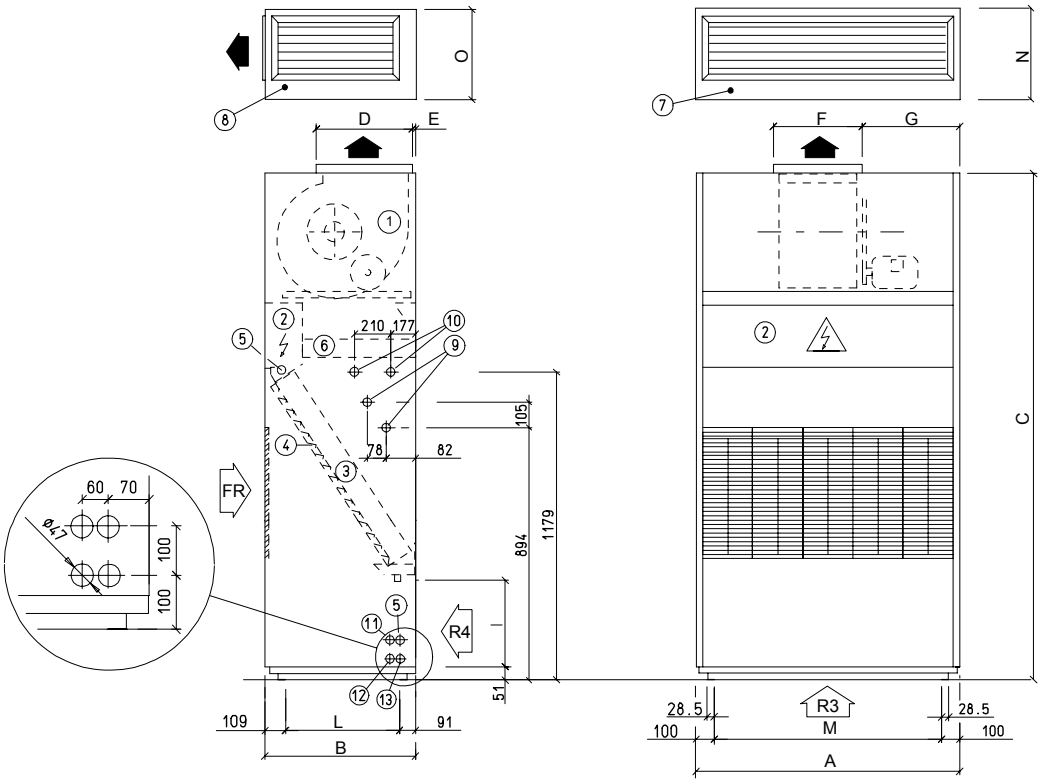
(SP1 -)RS485 remote communication serial port

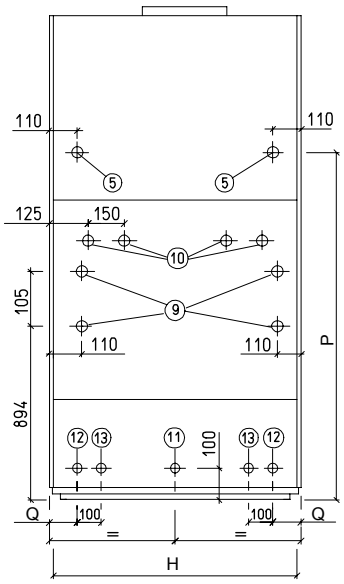
The serial port with MODBUS protocol allows the cable connection between the units and the ELFO-Control system, allowing the operation parameters control and modification



Configuration Detail

DIMENSIONAL DRAWING



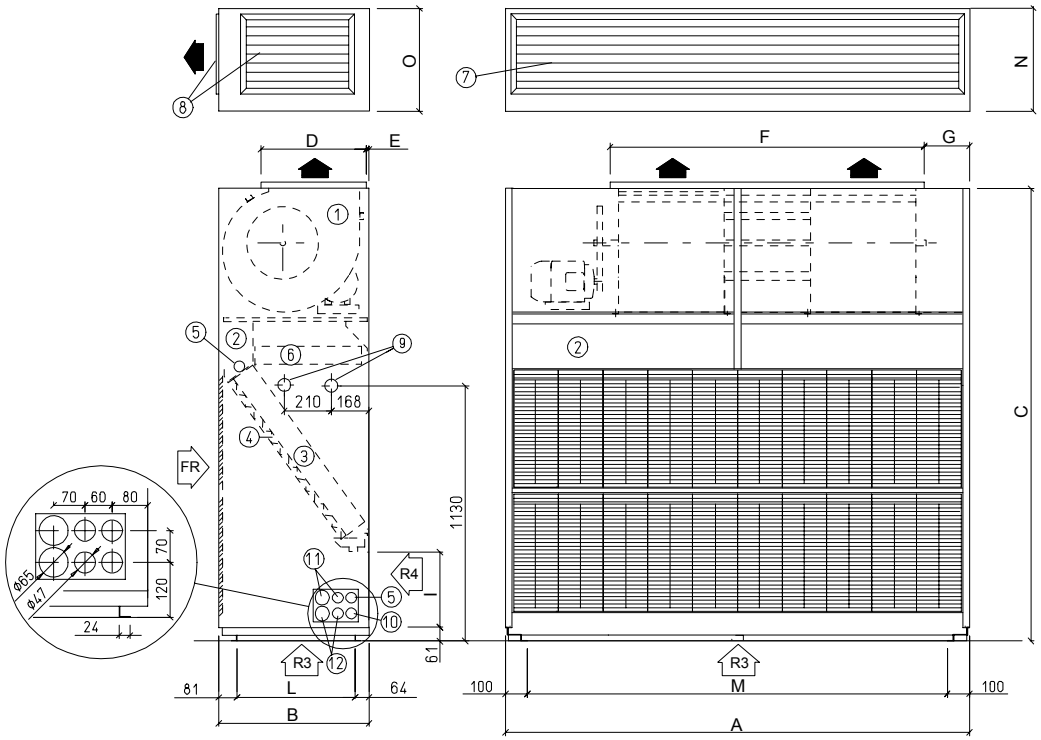


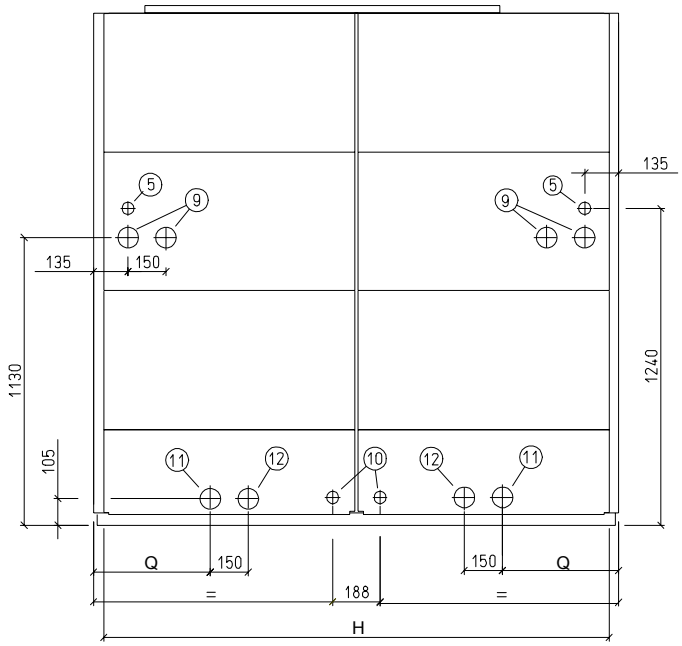
(1) OUTLET CENTRIFUGAL FAN
(2) ELECTRICAL PANEL
(3) MAIN WATER COIL
(4) AIR FILTER
(5) POWER INPUT
(6) ELECTRIC HEATERS OR HOT WATER COIL (OPT)
(7) AIR OUTLET PLENUM
SUPPLIED SEPARATELY
(8) OUTLET PLENUM ON THREE SIDES
SUPPLIED SEPARATELY
(9) WATER FITTINGS
(SIZES 31-41-51-71)
(10) WATER FITTINGS
(SIZES 91-101-121)
(11) CONDENSATE DISCHARGE
(12) WATER INLET (STANDARD UNIT)
(13) WATER OUTLET (STANDARD UNIT)

(H) REAR INTAKE DIMENSION

Size		**31**	**41**	**51**	**71**	**91**	**101**	**121**
A	mm	650	850	850	1050	1050	1250	1250
B	mm	500	500	500	500	670	670	670
C	mm	1700	1700	1700	1700	2000	2000	2000
D	mm	326	353	353	260	470	470	470
E	mm	28	12	12	12	10	10	10
F	mm	362	395	395	900	535	535	535
G	mm	144	227	227	75	357	457	457
H	mm	551	754	754	954	954	1154	1154
I	mm	310	310	310	310	315	315	315
L	mm	300	300	300	300	470	470	470
M	mm	450	650	650	850	850	1050	1050
N	mm	500	500	500	500	630	630	630
O	mm	350	350	350	350	450	450	450
P	mm	1290	1290	1290	1290	1490	1490	1490
Q	mm	100	100	100	100	100	100	100
Length	mm	650	850	850	1050	1050	1250	1250
Depth	mm	500	500	500	500	670	670	670
Height	mm	1700	1700	1700	1700	2000	2000	2000
Operating weight	kg	96	117	123	140	185	210	215
Shipping weight	kg	106	127	133	150	195	220	225

DIMENSIONAL DRAWING





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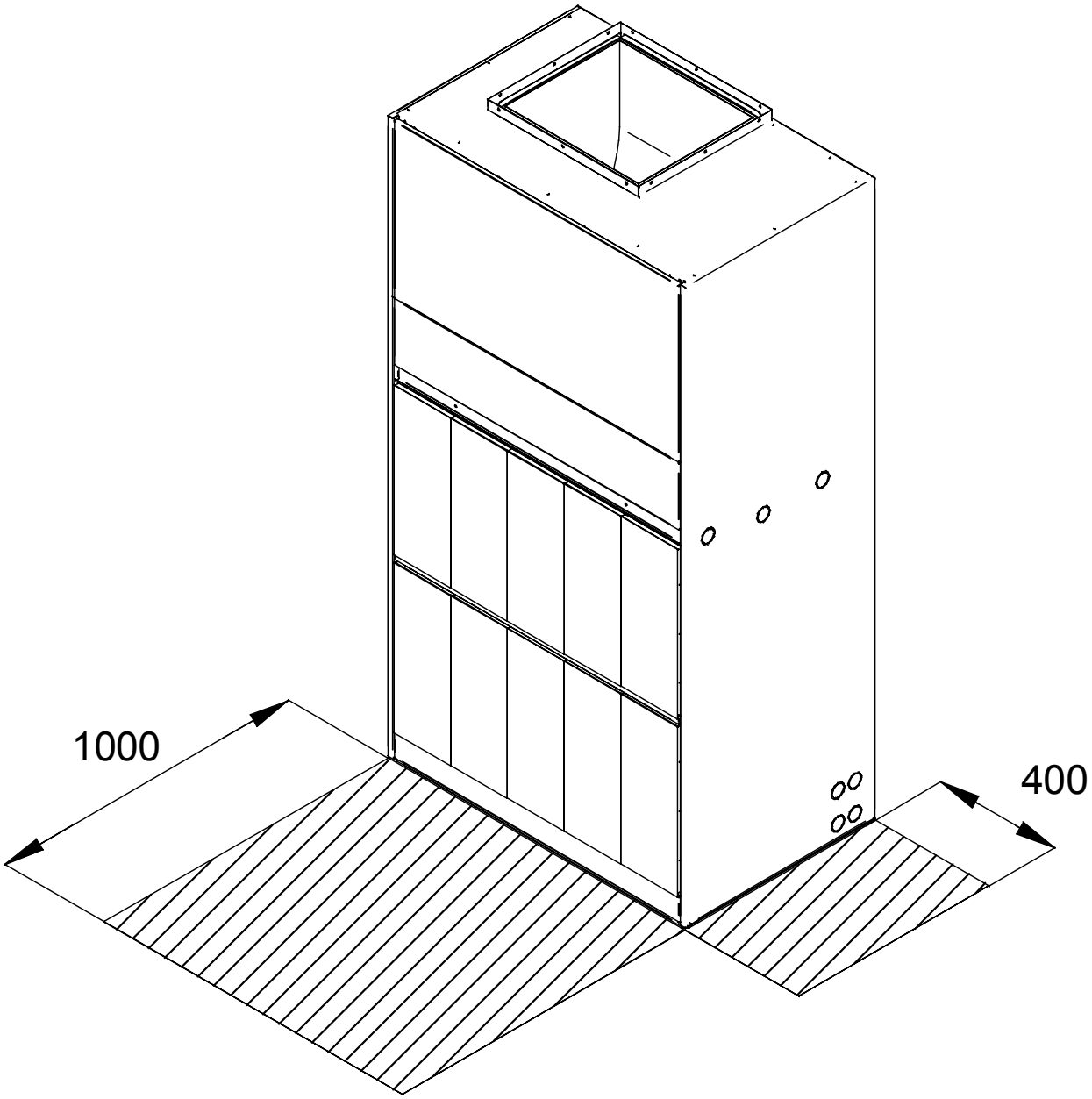
(10) CONDENSATE DISCHARGE
(11) WATER INLET (STANDARD UNIT)
(12) WATER OUTLET (STANDARD UNIT)

(H) REAR INTAKE DIMENSION

Size			142	182	202	242
A		mm	1870	1870	2070	2070
B		mm	670	670	670	670
C		mm	2000	2000	2000	2000
D		mm	410	410	470	470
E		mm	12	12	12	12
F		mm	1200	1200	1400	1400
G		mm	180	180	202	202
H		mm	1754	1754	1954	1954
I		mm	315	315	315	315
L		mm	525	525	525	525
M		mm	1670	1670	1870	1870
N		mm	630	630	630	630
O		mm	450	450	450	450
P		mm	1130	1130	1240	1240
Q		mm	359	359	459	459
Length		mm	1870	1870	2070	2070
Depth		mm	670	670	670	670
Height		mm	2000	2000	2000	2000
Operating weight		kg	250	260	290	295
Shipping weight		kg	260	270	300	305

FUNCTIONAL CLEARANCES



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