



Air handling units

*Excellent **quality / price** ratio*
*Very short **delivery** time*
Double wall with 50 mm insulation
Complete range meeting
all the tertiary requirements



CLIMACIAT AIRTOP

Air flow : 1 000 to 17 000 m³/h

DESCRIPTION

Casing

- Double wall panelling, with 50 mm long fibers mineral wool, reinforced with a soldered -fiberglass sheet this gives a very efficient mechanical strength.
- External wall in enamelled galvanized sheet metal (two tone RAL 7024 and 7025)
- Adapted peripheral gasket arrangement :
 - crushable rotproof gaskets for fixed panels
 - EPDM profiled gaskets for access doors
- Smooth internal part of the AHU, as per European norm EN 13053 recommendations (no bumps nor protruding screws, ...)
- Access to elements for maintenance through large access doors fitted with offset axis hinges, closed by 1/4 turn progressive tightening latches.
- Structure manufacturing according to the AHU sizes : sizes N° 25 to 75

Self-supporting panels with aluminium vertical mounts, sizes N° 100 and 150

Panels screwed on an aluminium structure imbedded in the casing

The air handling units are composed of multi-bloc elements, or monobloc ones if size and composition allow it.

All our blocks can be dismantled on the installation site if required.

Available options :

- Adjustable support feet + 35/+ 60 mm
- Inclined overhang for outdoor models (sizes 25 to 75)
- Roofing for outdoor models
- Screened hoods for outdoor models

Registers

- Sectioning register
- Antifrost register
- Compensing register
- Safety register (CH 38)
- Adjusting register

All the registers are made of profiled, counter-rotative dampers, lateral gaskets, driven by cogwheels

Steel frame and dampers

These registers are installed outside the casing or inside the safety register (CH 38)

Dampers control : manual or motorized

Available options

- Servomotor, delivered unassembled
- Heating elements for warming mechanisms for temperatures down to -25°C

Air intake boxes

Single air intake, mixing, economizer mixing

Discharge boxes

Directional, distribution

Mounting of joint dampers outside or inside the casing, ensuring the task defined by the selected section

Manual or motorized command

Available options

- Servomotor, delivered unassembled
- Heating elements for warming mechanisms under fresh air temperatures down to -25°C
- Non connected lighting (if access planned)



Filters

- Filter cells positioning systems equipments for all 3 ranges
- Filter cells with international dimensions 24" x 24" and 12" x 24"
- Pressure taps for each filter stage

The CLIMACIAT AIRTOP range can be equipped with G4 pre-filters ; their sizes are adapted to the maximal dimensions of the filling passage section for sizes 25, 50 and 75 (assembly 0)

4 standardized assembly systems

Assembly 0 : traditional slides for G4 cells (on sizes 25, 50 and 75)

Assembly 1 : crushable slides (horizontal range), G2 and G4 efficiency, 65 to 90% gravimetric efficiency (Gravi) with lateral door

Assembly 2 : crushable slides (horizontal and vertical ranges), F5 to F9 efficiency, 40 to 98% opacimetric efficiency (OPA) with lateral door

Assembly 3U : standard frames, F5 to H10 efficiency, 40% OPA to 85% MPPS efficiency with upstream door

	ASSEMBLY			
	0	1	2	3U
F1 - G2		●		
F2 - G4	●	●		●
F3 - G4		●	●	●
HEP F6 to F8			●	●
HPS F6 to F8			●	●
FHPS G4 + F6 to F8			●	●
HPR F6 to F9			●	●
HPR H10				●
HPRCARB Urban pollution				●

Active carbon : for urban pollution, assembly 3U (standard frame)

- Classification of efficiencies as per EN 779 from G2 to F9
- Classification of efficiencies as per EN 1822 from H10 to H14
- Classification filter derivation leak EN 1886 (F9 classification)

Designation of filter cells selected by CIAT to equip air handling units

Application	CIAT designation	Material		EN Classification	Efficiency		Construction			
		Frame	Media							
Prefilter	F1	Galva	Galva or stainless	G2	Gravimetric	65 %	Flat filter			
	F2		Synthetic	G4		90 %	Pleated filter			
	F3		Synthetic	G4		90 %	Short pockets			
High efficiency filter	HEP1	Galva	Fiberglass	F6	Opacimetric	65 %	Pleated filter			
	HEP2			F7		85 %				
	HEP3			F8		95 %				
	HPS1	Galva	Fiberglass or synthetic	F6		65 %	Short or long pockets			
	HPS2			F7		85 %				
	HPS3			F8		95 %				
	FHPS1	Galva	Synthetic	G4 + F6		90 % GRAVI + 65 % OPA	Short or long pockets			
	FHPS2			G4 + F7		90 % GRAVI + 85 % OPA				
	FHPS3			G4 + F8		90 % GRAVI + 90 % OPA				
	Absolute filter	HPR1 HPR2 HPR3 HPR4	Polypropylene + ABS	Fiberglass		F6 F7 F8 F9	Most penetrating particle size	65 % 85 % 95 % 98 %	Pleated deep dihedrals	
HPRH10		Fiberglass			H10	85 % MPPS		Pleated deep dihedrals		
Active carbon filter		HPRCARB			Polypropylene	Synthetic		Urban pollution		Deep dihedrals

Available options

- Liquid manometer kit
- Contact manometer kit
- Door contact kit



Description of components

Heating coil for hot water

Copper tubes, aluminium fins

Primary fluid max. temperature = 120°C

Water operating pressure : 8 bar standard

Higher pressures on consultation

Copper tubes headers with bosses up to 3" diam.

Dismountable sealing collars between casing and headers (up to 3" diam., avoiding deterioration of the sealing system when carrying out the connections)

Available options

- Anti-frost sensor support slide
- Anti-frost thermostat delivered in kit
- Upstream and downstream pressure taps kit
- Blygold Polual treatment for coil

Electrical battery

Shrouded heating elements in stainless spiral fin tubes

Connection on copper coil

Double insulation mounting

Safety thermostat with standard manual reset

For the coil installation : refer to the brochure enclosed with each air handling unit

Take the necessary steps to avoid abnormal heating when stopping the ventilation

Available options

- 3 ph. or 1 ph. wiring

Chilled water cooling coil

Copper tubes, aluminium fins

Water operating pressure : 8 bars standard – higher pressure on request

Inclined condensates recovery tray with drain pipes to be connected to a siphon on site

Standard droplet separator if required, option on request

Copper tubes headers with bosses up to 3" diam.

Dismountable sealing collars between casing and headers up to 3" diam., avoiding the deterioration of the sealing system during connection works

Available options

- Access panel on droplet separator (standard if compulsory)
- Kit upstream and downstream pressure taps
- Blygold Polual treated coil
- Stainless steel recovery tray
- Galvanized droplet separator (standard if required)
- Droplet separator with polypropylene blades (standard, if required)

Fans

Double inlet forward curved blades fan

Double inlet backward curved blade fan

Steel shell, some backward curved blades propellers can be in reinforced polyamide glass fiber

Mounting on antivibratil chassis with springs (option for AIRTOP N° 25 and 50)

Internal flexible sleeve connection (except AIRTOP N° 25 and 50)

Ball bearings mounted in the fan inlets

Pulleys and belts transmission on the double inlet fans

Standard motor : asynchroneous 3 ph. 230V or 400V 50 Hz IP 55 protection, Class F with normally closed overload protection (PTO)

Port hole with locks conforming to "Mechanical Safety" prescription of norm EN 1886 and machine directive

Hinged door

Available options

- 3 positions of the discharge nozzle
- Door protection
- Pressure taps kit
- Door contact kit
- Smoke detector kit (NF S61961)
- Light kit not connected
- Proximity switch kit
- Frequency variator kit
- Flush mounted door

Plate recovery unit for superimposed AHUs

Description

In the standard construction, the exchanger is with aluminium plates ; this unit can be used currently up to a 150°C air temperature (if the plate recovery unit is a AHU component, the standard limit temperature is 80°C; 1000 Pa differential pressure, with a leak flow below 1% between the air streams (EXTRACTION/INTRODUCTION)

Condensates recovery tray on the extracted air side in galvanized sheet metal with standard condensates discharge pipe

Available options

- Integral G4 pre-filter, with hinged access door
- By-pass on fresh air or extracted air
- Manual or motorized registers control
- Servo-motor delivered not mounted

Sound trap

Description

900 mm baffles

Mineral wool, various densities, sides are coated with an anti-erosion film

Galvanized sheet metal

Semi-baffles on the lateral sides

Optional accessories

Available options

- Standard flexible sleeves outside the casing
- Pre-fabricated connection frames to be mounted at the ducts extremities (to the dimensions of the flexible sleeves)
- Screened frames for protection of the AHU air intake/discharge



EQUIPMENT

OPTION	ELEMENTS	AIRTOP 25 to 150
1	Standard mixing or single air intake	●
3	Antifreeze, safety or compensation register	●
5	F1 or F2 or pleated filter	●
7	F2 filter + short or long pocket filter	●
8	F3 filter or short or long pocket filter	●
9		
10	H10 filter or HPR carbon filter or short or long pocket	●
12	Heating coil : hot water	●
14	Electrical battery	●
17 - 18	Cooling coil : cold water	●
23	Standard economizer mixing	horizontal
37		vertical
26	LP or MP fan	●
28	Expansion compartment	●
31	Empty section	●
33	Muffler Baffle length 900	●
40	Plate recovery unit	●

DIMENSIONS

Determination of length "L"

A - Determine the size of the AHU as a function of the air flow to be treated

B - Add the lengths of the components necessary for the desired air treatment

Add the 2 end panels (2 x 25) to the total obtained to get the length of the air handling unit

Examples :

Air handling unit CLIMACIAT AIRTOP 50

- Filter F2	200	
- Heating coil 2 rows	200	
- Cooling coil 6 rows	400	
- Fan	<u>1000</u>	
Total of above elements	1800	i.e. a Monobloc L18 casing
End panels (25x2)	50	
- Total length of the AHU	1850	

Air handling unit CLIMACIAT AIRTOP 100

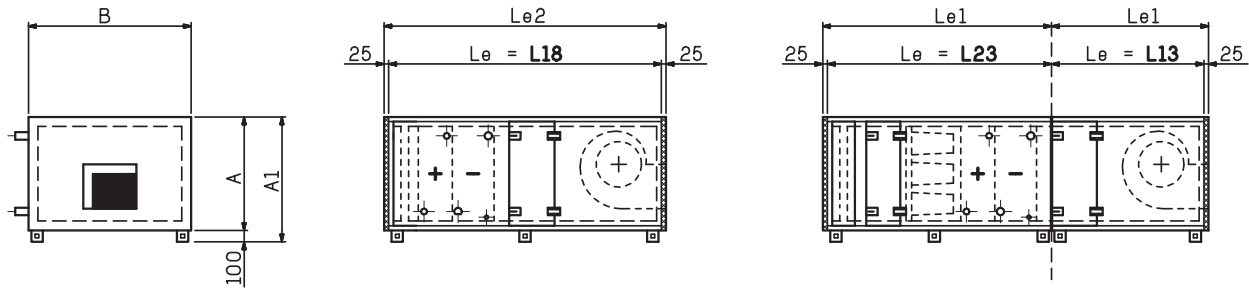
- Mixing	500	} 2200 i.e. a L22 casing
- Filter F2 + HPSL 85	900	
- Heating coil 2 rows	300	
- Cooling coil 6 rows	500	
- Fan	<u>1300</u>	i.e. a L13 casing
Total of above elements	3500	i.e. a length overpassing the maxi value of the Monobloc 100 (2800) air handling unit, and we therefore arrive at a bi-bloc air handling unit.

The traditional solution consists of an independant ventilation section. In this case, the end panels are not required and will be suppressed when connecting the 2 blocs.

- 1 block with mixing + filters + coils	= 2200 + 25 = 2225
- 1 block with fan	= 1300 + 25 = <u>1325</u>
- Total length of the bi-block air handling unit	3550

AIRTOP N°	25 50	75	100 150
L1		100	
L2		200	
L3		300	
L4		400	
L5		500	
L6		600	
L7		700	
L8		800	
L9		900	
L10		1000	
L11		1100	
L12		1200	
L13		1300	
L14		1400	
L15		1500	
L16		1600	
L17		1700	
L18		1800	
L19		1900	
L20		2000	
L21		2100	
L22	2200	2200	2200
L23	2300		2300
L24	2400		2400
L25			2500
L26			2600
L27			2700
L28			2800
L29			2900
L30			3000
L31			3100
L32			3200

DIMENSIONS

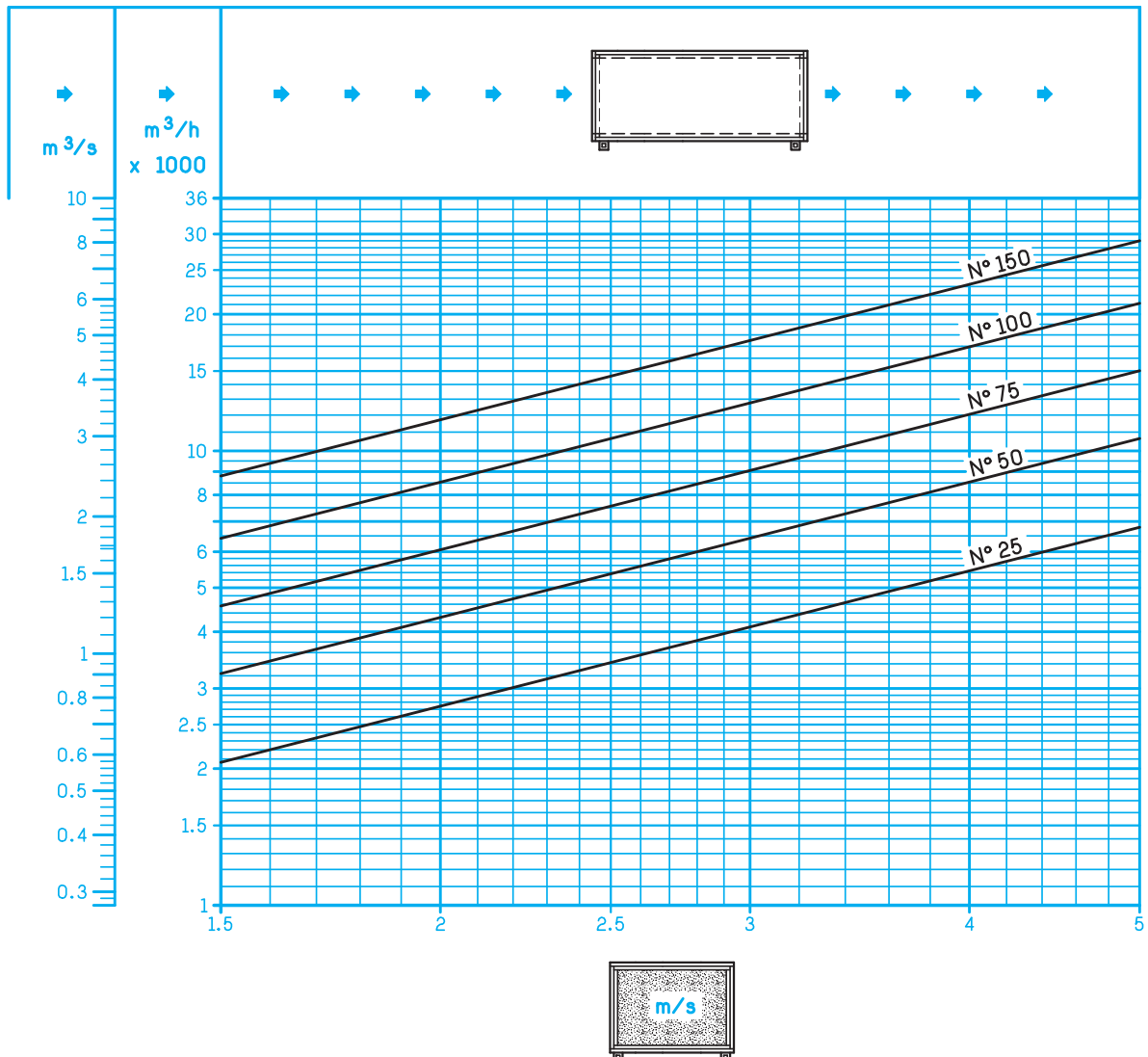


- Le length of integrated elements
- Le1 length of integrated elements + 1 end panel
- Le2 length of integrated elements + 2 end panels

AIRTOP	25	50	75	100	150
A	593	865	865	946	1236
A1	693	965	965	1046	1336
B	875	875	1185	1516	1516

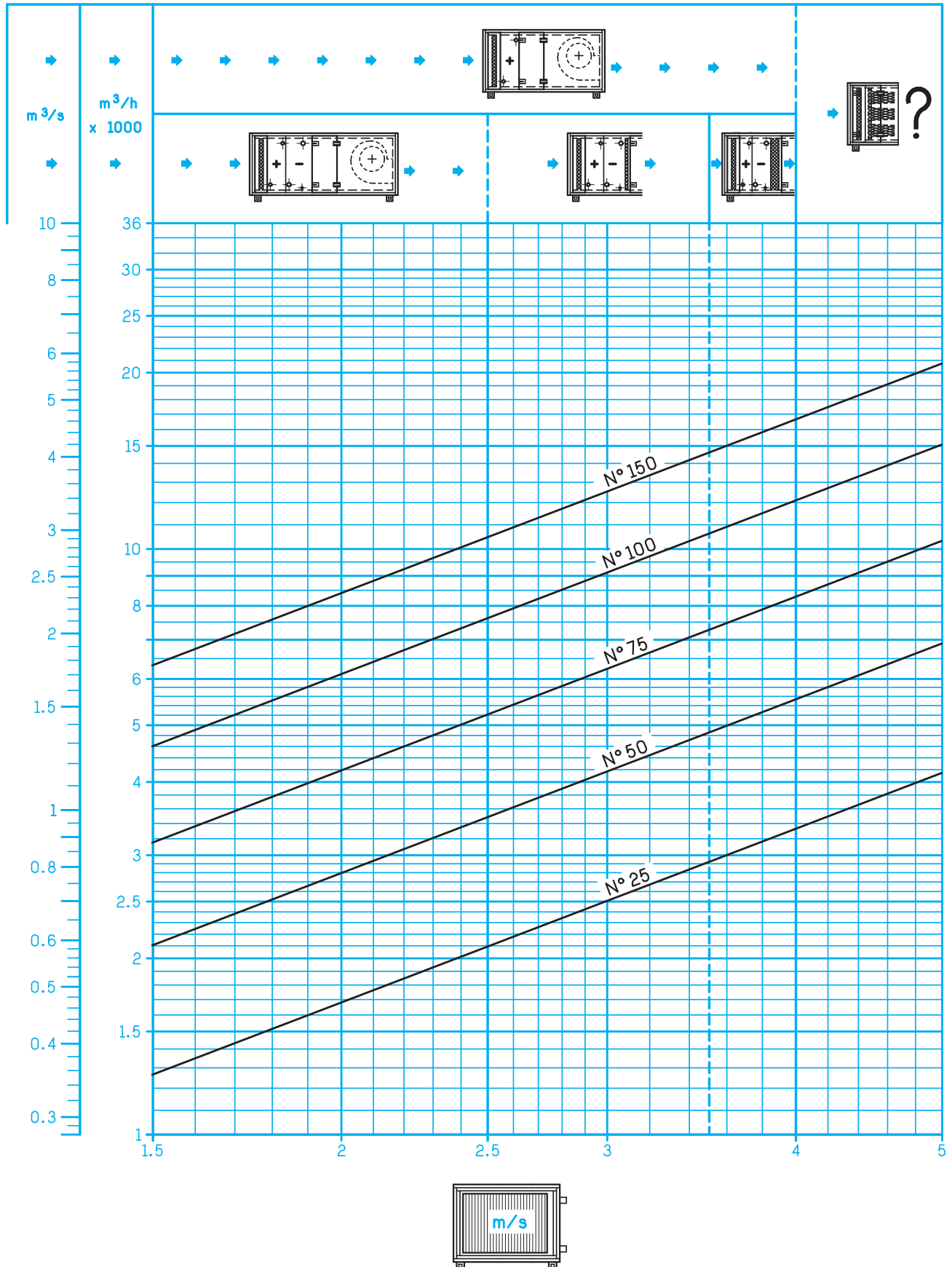
SELECTION CURVES

Speed into the free section





Speed into the coil section



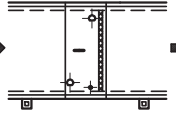
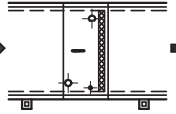
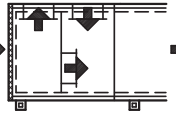
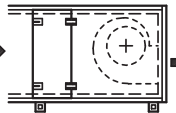
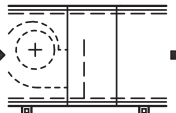
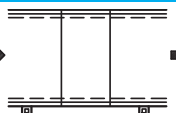
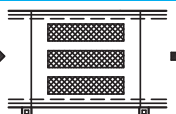
DIMENSIONS

Horizontally mounted air handling units – Lengths required for integration of standard elements


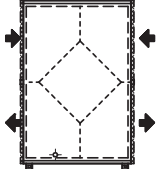
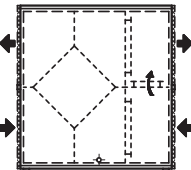
Option	Symbol	Description	Observation	AIRTOP					
				25	50	75	100	150	
FRONT SECTION		Width		875		1185	1516		
		Total height		693	965		1046	1336	
BASE		Base length (End panels)		50					
RECOVERY		Mixing or standard single air intake Internal, external boxes	See detail position	300	500		600		
			Antifrost, safety or compensation register		200				
FILTRATION			Filter F1 or F2	with flush mounted door	Assembly 0 or 1		200		
		Filter F1 + F2 or pleated filter HEP 65-85-95		Assembly 1 or 2		300			
		Filter F2 + pleated filter HEP 65-85-95	with flush mounted door	Assemblies 1 + 2	500				
		Filter F2 + rigid pocket filter HPR 65-85-95-98 or HPR carbon			600				
		Filter F2 + short flexible pocket filter HPSC or FHPSC 65-85-95			700				
		Filter F2 + long flexible pocket filter HPSL or FHPSL 65-85-95			900				
		Filter F3 or short flexible pocket filter HPSC or FHPSC 65-85-95 or rigid pocket filter HPR 65-85-95-98 or HPR carbon	with flush mounted door	Assembly 2 integrated element at the start of box	600				
		Long flexible pocket filter HPSL or FHPSL 65-85-95			900				
		Filter F3 or short flexible pocket filter HPSC or FHPSC 65-85-95 or rigid pocket filter HPR 65-85-95-98 or HPR carbon	with flush mounted door	Assembly 2 integrated element between 2 other elements	500				
		Long flexible pocket filter HPSL or FHPSL 65-85-95			800				
	Filter F2 + pleated filter HEP 65-85-95	with flush mounted door	Assembly 3U	600					
	Rigid pocket filter HPR 65-85-95-98 or H10 or HPR carbon or Filter F2 + rigid pocket filter HPR 65-85-95-98 or H10 or HPR carbon			900					
	Filter F3 or short flexible pocket filter HPSC or FHPSC 65-85-95			1000					
	Filter F2 + short flexible pocket filter HPSC or FHPSC 65-85-95			1000					
	Long flexible pocket filter FHPSL 65-85-95 or +/- F2			1200					
HEATING		Heating coil Hot water	1.2 R	200		-			
			3 - 4 R	-		300			
			6 R	300					
			Slide for anti-frost sensor	400					
				100					
	Electrical battery	maxi output in kW	31.2	62.4	96.0	132	198		
		Nr. of shrouded elements	12	24	24	24	36		
				400					

DIMENSIONS

Horizontally mounted air handling units - Lengths required for integration of standard elements





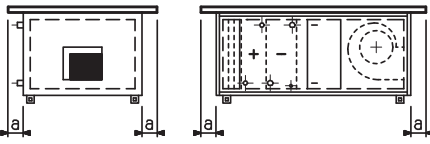
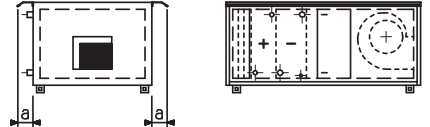
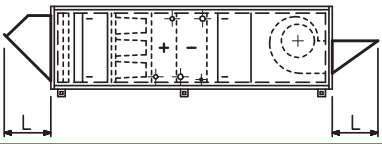
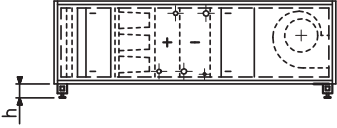
Option	Symbol	Description	Observation	AIRTOP					
				25	50	75	100	150	
REFRIGERATION		Cooling coil Cold water WITH or WITHOUT STANDARD separator	1-2 R	300		-			
				-		400			
				300		-			
				-		400			
				400		-			
REFRIGERATION		Cooling coil Cold water WITH BLADE separator	1-2 R	400					
				3-4 R	400				
					6 R	500			
ECONOMISER MIXING		Standard economiser mixing Internal boxes	see position detail	600	900	1000	1200		
VENTILATION		LP or MP fan Horizontal or vertical discharge		900	1000	1200	1300	1400	
DIFFUSION		Expansion compartment	WITHOUT distributor	400					
			WITH distributor	600					
SPACE		Empty section		200 mini					
MUFFLER		Muffler	Baffles length 900	Intake = 1100 Discharge = 1400					

Additional boxes only

Option	Symbol	Description	Observation	AIRTOP				
				25	50	75	100	150
37 37G		VERTICAL economizer mixing (superimposed air handling units) (without end panels) See position detail	L	300	500	500	500	600
			H	1286	1830	1830	1992	2572
			kg	66	113	134	166	221
40		Plate recovery unit (without by-pass) (without end panels) See position detail	L	1000	1300	1400	1400	1900
			H	1286	1830	1830	1992	2572
			kg	145	211	272	323	513
77		Plate recovery unit with VERTICAL economizer mixing (without by-pass) (superimposed air handling units) (without end panels) See position detail	L	1300	1800	1900	1900	-
			H	1286	1830	1830	1992	-
			kg	182	304	375	464	-

DIMENSIONS

Horizontally mounted air handling units - Accessories

Option	Symbol	Description	AIRTOP							
			25	50	75	100	150			
50		Antifrost end valve Intake	Mixing section	e = 80	e = 130					
			Air handling unit section	e = 130						
51		Flexible sleeve Intake	Mixing section	e = 120						
			Air handling unit section	e = 120						
		Discharge	Fan section	e = 120						
52		Pre-fabricated frame Intake	Mixing section	e = 30						
			Air handling unit section	e = 30						
		Discharge	Fan section	e = 30						
54		Screened frame Intake	Mixing section	10						
			Air handling unit section							
		Discharge	Fan section							
55T		Roofing	a = 45							
55L		Gutter overhang	a = 45				-			
56		Hood and screen	Intake	Air handling unit section	L	400	650	650	650	950
			Discharge	Fan section	L	280	330	410	450	500
58		Adjustable support feet	mini h. = 135 maxi h. = 160							