ECOAIR 2 SLIM

Be.On

EC Technology

Flexible Coil Modules

Plug & Play

Double-panel

DESCRIPTION

Low-profile air handling unit, ECOAIR 2 SLIM, designed for ventilation and air conditioning applications. It integrates EC Plug Fan fans, up to 2 filtration stages, and 3 types of heating and/or cooling coils.

Structure made of aluminum profiles with 25 mm double-skin panels, outer face in Magnelis with corrosion class C5 and inner face in galvanized steel sheet Z275. Intermediate insulation in high-density rock wool ensures high thermal and acoustic performance.

Compact solution available in 6 sizes, for airflow rates between 500 and 8000 m³/h. The main unit allows integration of 3 types of coils (water heating/cooling coil, refrigerant coil, or electric heating coil), with the option to incorporate additional coil modules (water or refrigerant) and a 2-way mixing box.

Equipped with Smart Evolution and Be.On control systems.

STANDARDS AND CERTIFICATIONS

EN 10327 · EN 10192 · CE · Protection Class IP44

ADVANTAGES

- Compact unit designed for false ceilings.
- 25 mm double-skin insulated panels.
- Corrosion class C5.
- Low consumption electronic motor.
- Be.On module integration with cloud connection and Be.Smart monitoring.
- Flexible modular configurations: main coil module, additional coil modules, and additional 2-way mixing box.
- 3-way valve and actuator included.
- Integrated electrical panel.

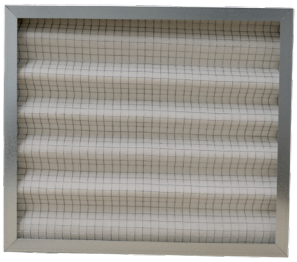
ACCESSORIES

- ePM10 50% / M5 filter
- ePM1 50% / F7 filter
- Additional coil modules
- Additional 2-way mixing box
- Protection for rain (Intake / exhaust)
- Rain roof
- Constant airflow control
- CO_2 Control

COMPONENTS

FILTERS

The filtration system consists of two stages, mounted in parallel on sliding rails designed to minimize bypass leakage, in compliance with EN 1886. It may include an ePM10 50% (M5) pre-filter for coarse particles and a standard ePM1 50% (F7) fine filter (EN 779), according to ISO 16890 classification.



FAN

Radial EC brushless Plug Fan centrifugal fan with backward-curved blades, compact design and high available pressure. The impeller aerodynamics, balanced according to ISO 1940 G2.5 and vibration compliant with AMCA 204, combined with an EC motor class B insulation and IP44 protection, ensures high capacity, efficiency, and performance even at high system resistance.

COMPLEMENTARY MODULES

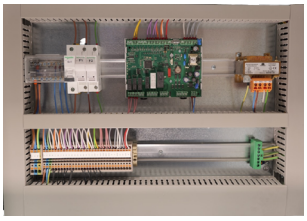
The additional modular configuration allows integration of a water coil module or refrigerant coil module, as well as a mixing box, enabling thermal flexibility and adaptation to various HVAC requirements.

CHANGE OVER COIL

Water coil that allows both heating and cooling operation using the same heat exchanger. It consists of copper tubes, aluminum fins mechanically expanded onto tubes, copper headers, and galvanized steel frame. Tightness and integrity are factory tested at 32 bar. Module equipped with stainless steel condensate drain tray. 3-way valve and actuator included.

DIRECT EXPANSION COIL

Direct expansion coil using R32 refrigerant. It consists of copper tubes, aluminum fins mechanically expanded onto tubes, copper headers, and galvanized steel frame. Tightness and integrity are factory tested at 60 bar. Module equipped with stainless steel condensate drain tray.



ELECTRIC HEATING COIL

Electric heater coil composed of armored heating elements in 8 mm steel tubes with 25 × 50 mm fins of the same material and quick fixing screws with M4 threaded terminals. The heaters are specifically designed for air handling applications. They are mounted in a frame and installed on a sliding rail for easy removal.

CHARACTERISTICS

ECOAIR 2 SLIM	500	1000	2000	3000	5000	8000
Airflow (m^3/h)	500	1000	2000	3000	5000	8000
Static pressure (Pa)	575	575	657	600	875	536
Motor Power (kW)	0,2	2 x 0,20	2 x 0,33	2 x 0,37	2 x 1,1	2 x 1,4
Nominal Rotation Speed (rpm)	3000	3000	3350	2750	3500	3300
Power Supply (V | F | Hz)	230 | 1 | 50				400 | 3 | 50	
Motor IP Class	IP 44					
IMAX (A)	1,71	3,32	4,04	4,70	4,76	5,54
Sound Pressure (dB (A)) *	43	46	50	48	56	54

* Sound pressure level at 4 m, measured in open field in accordance with ISO 3744

CHARACTERISTICS

CHANGE OVER COIL

BCA ECOAIR 2 SLIM	Airflow (m³/h)	Heating			Cooling		
		Heating capacity (kW)	Water flow rate (l/s)	Water pressure drop (kPa)	Cooling capacity (kW)	Water flow rate (l/s)	Water pressure drop (kPa)
500	356	3	0,13	4,3	2	0,07	3,2
	436	3	0,15	4,8	2	0,10	3,7
	495	3	0,17	5,1	2	0,12	4,1
1000	719	6	0,28	7,1	5	0,22	6,1
	879	7	0,32	8,4	5	0,25	6,9
	1000	7	0,35	9,4	6	0,27	7,5
2000	1439	11	0,55	6,8	9	0,43	5,9
	1758	13	0,63	8,1	10	0,49	6,7
	1998	14	0,69	9,0	11	0,53	7,3
3000	2136	17	0,83	11,5	14	0,67	9,5
	2611	20	0,95	14,7	16	0,76	11,6
	2967	22	1,04	17,2	17	0,81	13,3
5000	3561	29	1,39	13,2	24	1,13	10,9
	4352	33	1,60	16,9	27	1,27	13,5
	4946	36	1,74	19,8	29	1,37	15,4
8000	5800	47	2,24	17,4	39	1,85	13,7
	7089	54	2,58	22,4	44	2,09	16,9
	8056	59	2,81	24,1	47	2,25	19,3

Airflow at velocities: 1.8; 2.2; 2.5 m/s
Heating - Air temperature: 0°C / 80%. Water temperature: 45°C–40°C
Cooling - Air temperature: 35°C / 50%. Water temperature: 7°C–12°C

DIRECT EXPANSION COIL

BCR ECOAIR 2 SLIM	Airflow (m³/h)	Heating capacity (kW)	Cooling capacity (kW)
500	292	2	3
	356	2	3
	405	2	4
1000	654	4	7
	800	4	7
	909	5	8
2000	1374	8	14
	1679	9	16
	1908	10	17
3000	2085	13	21
	2548	15	23
	2895	16	25
5000	3459	22	36
	4227	25	40
	4803	28	43
8000	5613	36	57
	6861	41	64
	7796	45	69

Airflow at velocities: 1.8; 2.2; 2.5 m/s
Heating - Air inlet temperature: 10°C / 55%. R32 condensation temperature: 50°C
Cooling - Air inlet temperature: 35°C / 50%. R32 evaporation temperature: -4°C

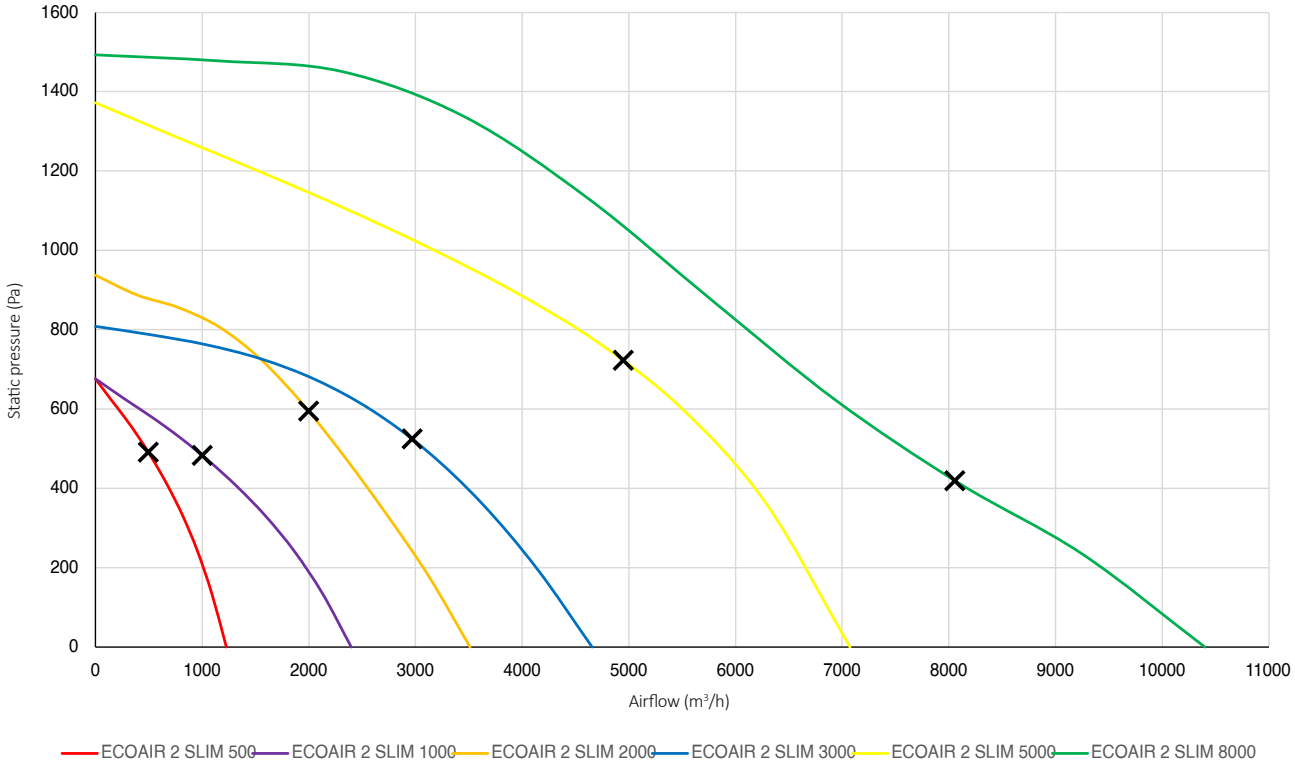
CHARACTERISTICS

ELECTRIC HEATING COIL

BRE ECOAIR 2 SLIM	Airflow (m3/h)	Heating capacity (kW)
500	500	3
1000	1000	6
2000	2000	14
3000	3000	24
5000	5000	36
8000	8000	54

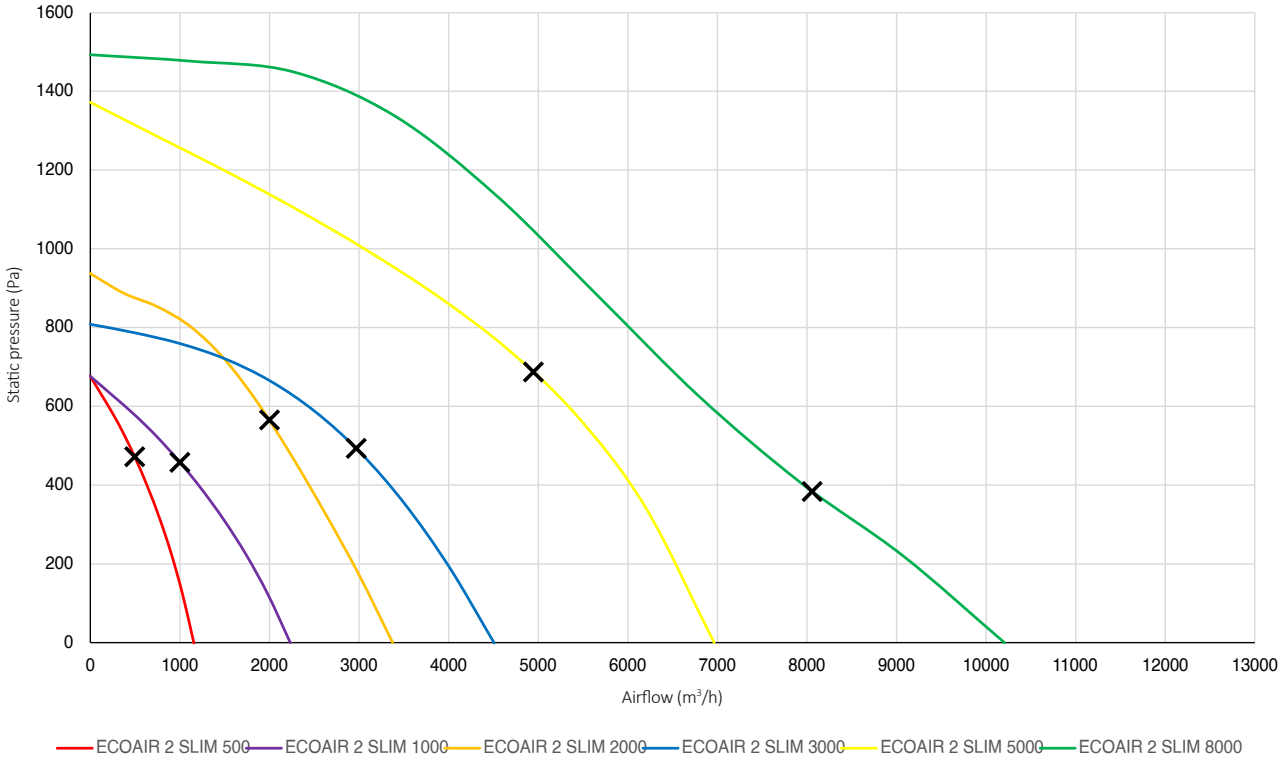
PERFORMANCE CURVES

ECOAIR 2 SLIM ePM10 50%/M5 + WATER COIL

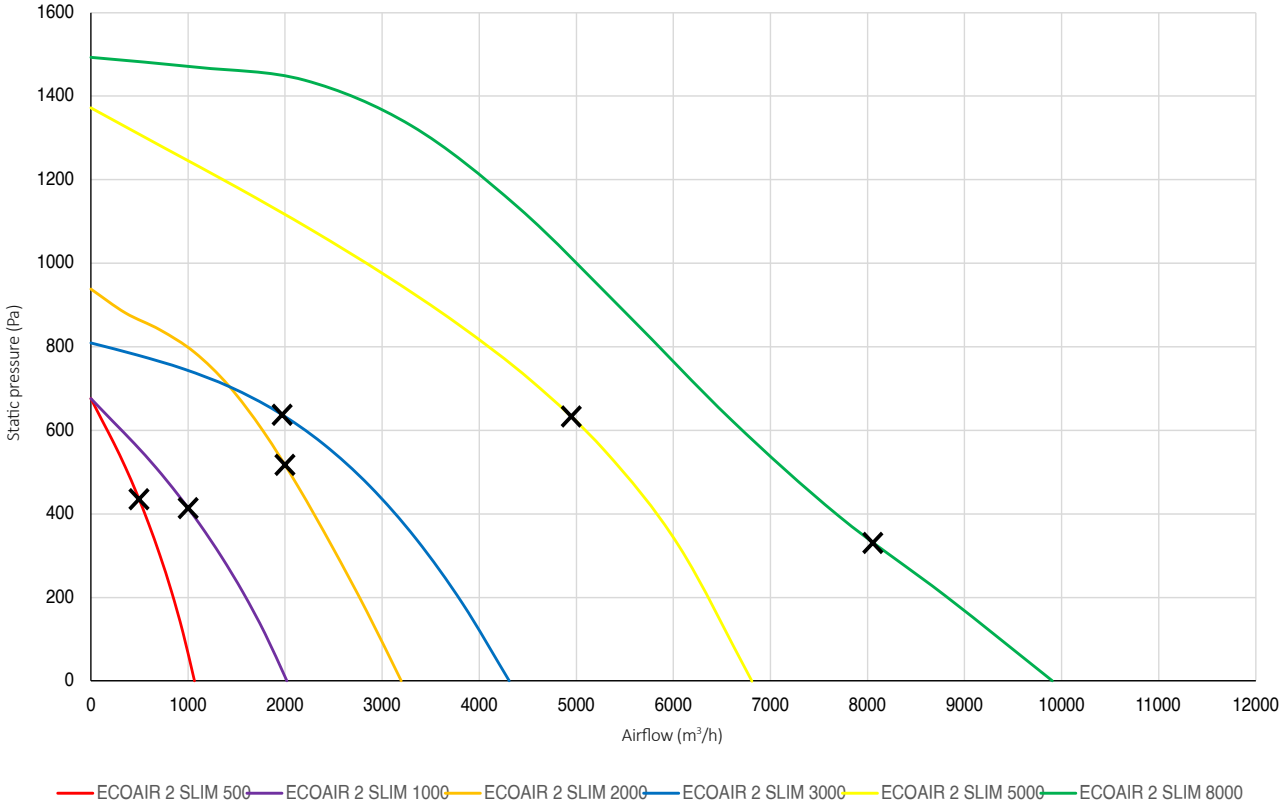


PERFORMANCE CURVES

ECOAIR 2 SLIM ePM1 50%F7 + WATER COIL

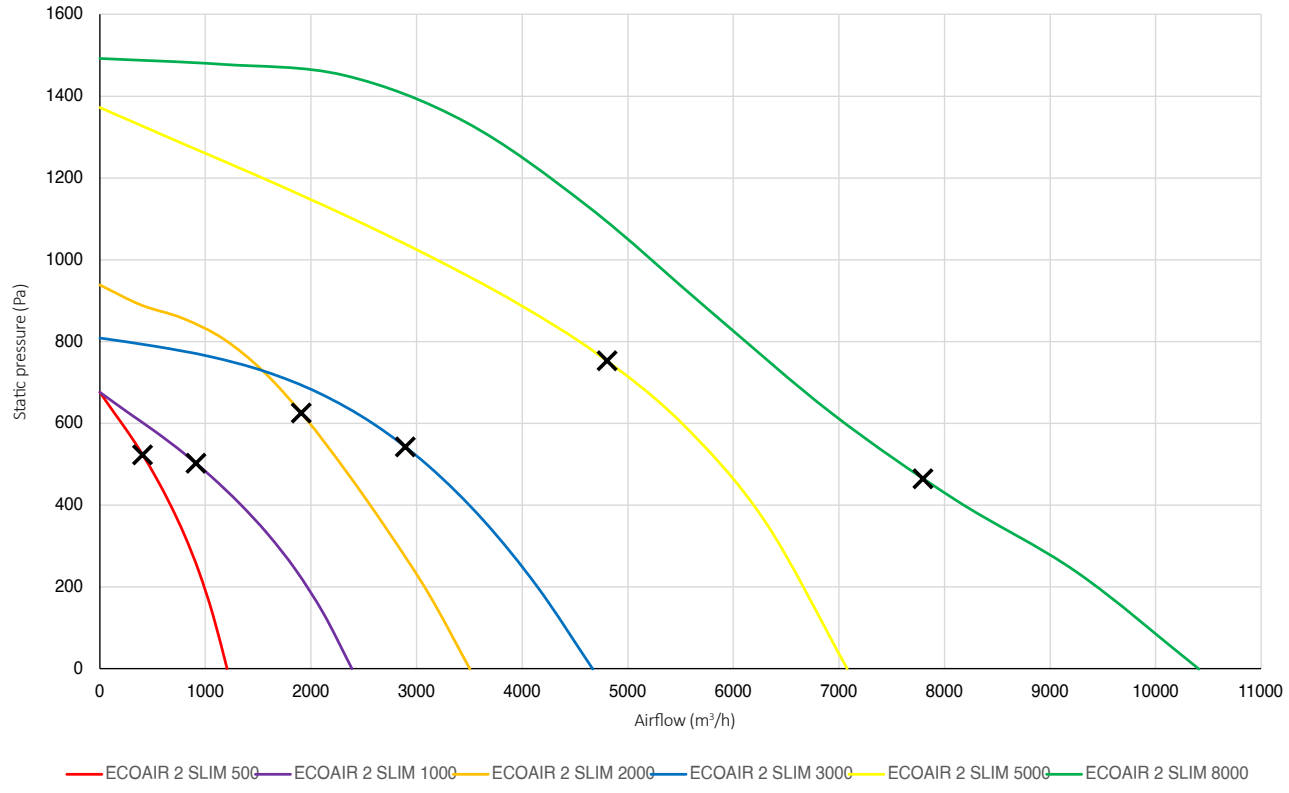


ECOAIR 2 SLIM ePM10 50%/M5 + ePM1 50%/F7 + WATER COIL

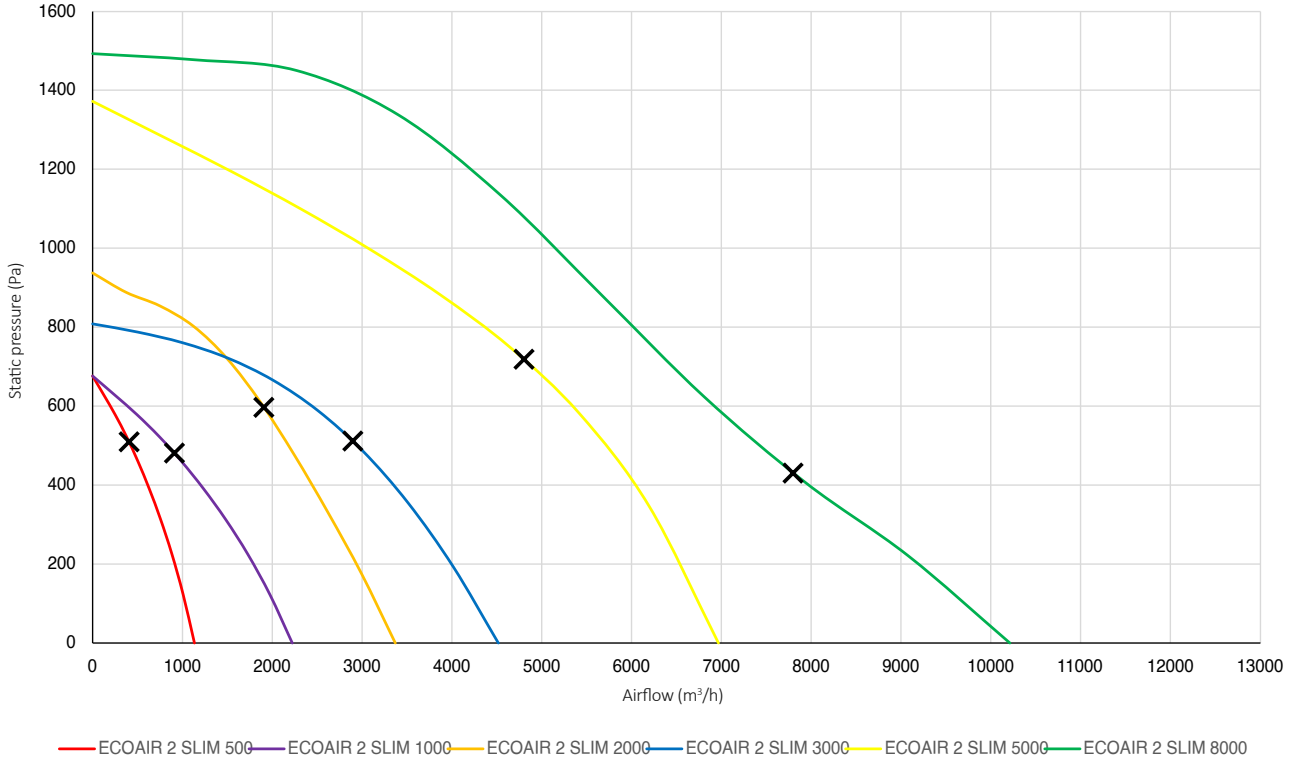


PERFORMANCE CURVES

ECOAIR 2 SLIM ePM10 50%/M5 + DX COIL

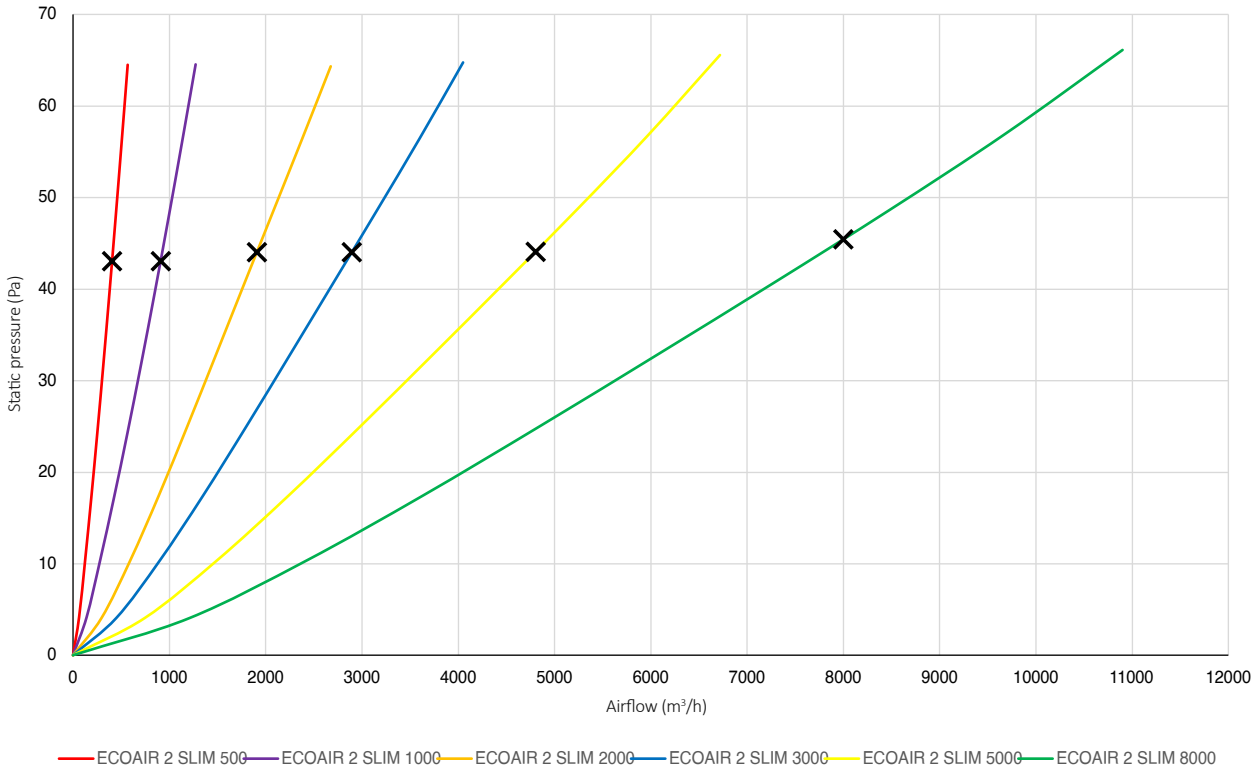


ECOAIR 2 SLIM ePM1 50%/F7 + DX COIL

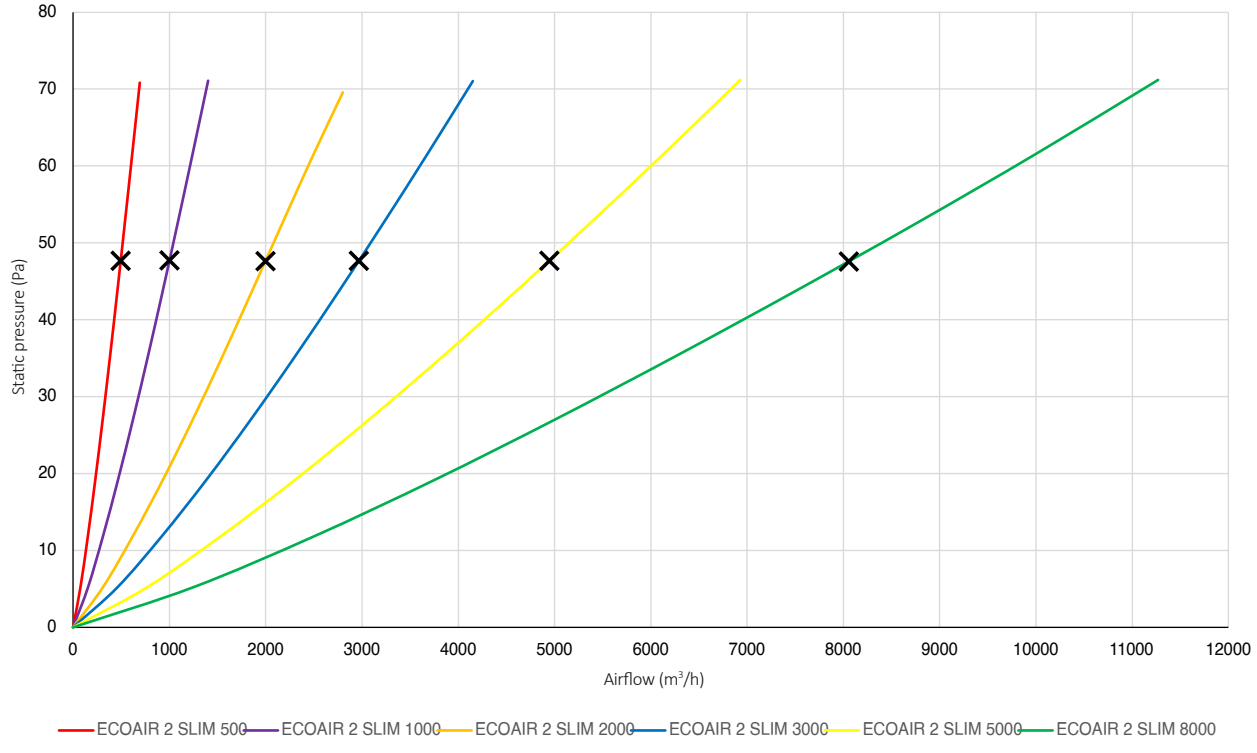


PERFORMANCE CURVES

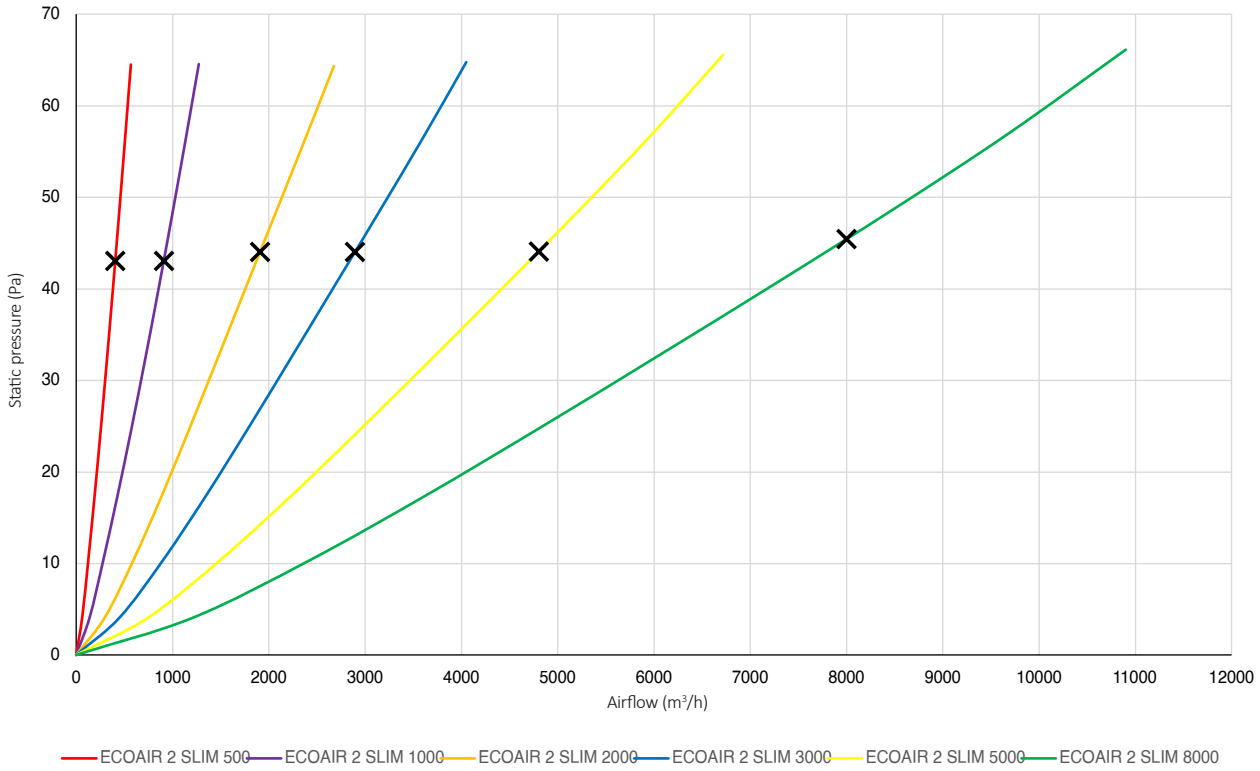
ECOAIR 2 SLIM ePM10 50%/M5 + ePM1 50%/F7 + DX COIL



ECOAIR 2 SLIM WATER COIL



ECOAIR 2 SLIM DX COIL



WATER COIL – WATER HEATING / COOLING COIL DX COIL – DIRECT EXPANSION COIL

DIMENSIONS

ECOAIR 2 SLIM	500	1000	2000	3000	5000	8000
A (mm)	350	350	350	375	500	700
L (mm)	450	730	1285	1650	1755	1900
P (mm)	1375	1375	1450	1450	1450	1530
Rectangular Cross-Section (CxB) (mm)	390 x 290	670 x 290	1225 x 290	1590 x 315	1695 x 440	1840 x 640
Weight (kg)	5,5	11	18	21.4	36	40

COIL MODULE

ECOAIR 2 SLIM - COIL MOD	500	1000	2000	3000	5000	8000
A (mm)	350	350	350	375	500	700
L (mm)	450	730	1285	1650	1755	1900
P (mm)	450	450	450	450	450	450
Rectangular Cross-Section (CxB) (mm)	390 x 290	670 x 290	1225 x 290	1590 x 315	1695 x 440	1840 x 640

DIMENSIONS

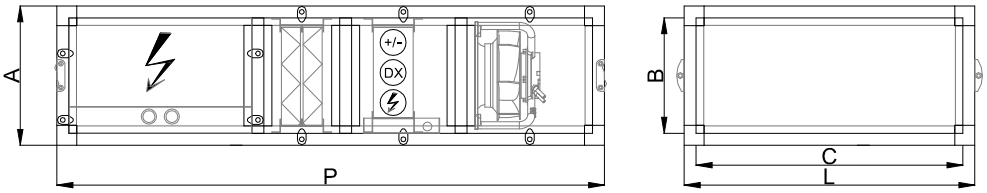
MIXING BOX MODULE

ECOAIR 2 SLIM - MIXING BOX	500	1000	2000	3000	5000	8000
A (mm)	350	350	350	375	500	700
L (mm)	450	730	1285	1650	1755	1900
P (mm)	350	350	350	375	500	700
C/D (mm)	290	290	290	315	440	640
E (mm)	390	670	1225	1590	1695	1840
Ak (m^2)	0,11	0,19	0,36	0,50	0,75	1,18
v (m/s)	1,23	1,43	1,56	1,66	1,86	1,89

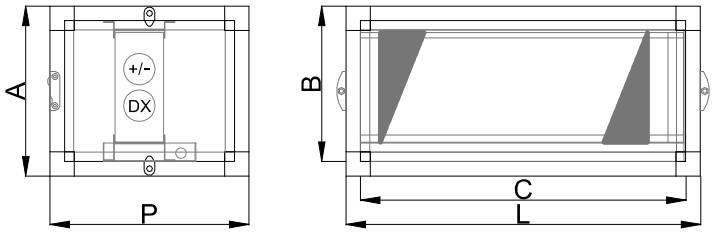
A - Height (mm)
C - Length (mm)
Ak - Throat area (m^2)
v - Throat velocity (m/s)

DIMENSIONS

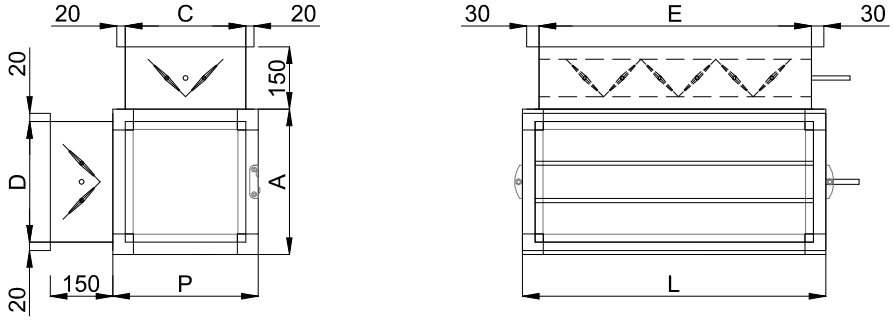
NOTE: MAINTENANCE CLEARANCE AND UNIT ACCESS DISTANCE | 750 MM



ECOAIR 2 SLIM
Main Unit

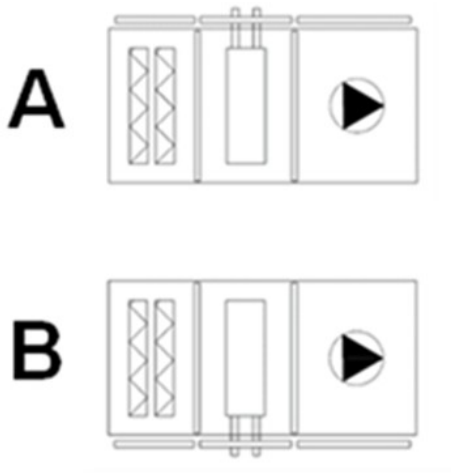


ECOAIR 2 SLIM
Coil Module



ECOAIR 2 SLIM
Mixing Box Module

CONFIGURATIONS



ERP VERIFICATION DOCUMENT

MANUFACTURER		ARFIT AIR CONDITIONING, S.A.					
Model		500	1000	2000	3000	5000	8000
Type		UVNR UVU					
Transmission Type		Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Heat Recovery System Type		-					
Heat Recovery Thermal Efficiency	%	-	-	-	-	-	-
Nominal Airflow	m^3/s	0.1389	0.2778	0.5556	0.8333	1.3888	2.0000
Input Power	kW	0.186	0.372	0.83	0.952	2.464	2.886
SPFint	$W/m^3/s$	130.4	160.7	170.1	158.0	190.8	158.5
Frontal Velocity	m/s	1.23	1.43	1.56	1.66	1.86	1.70
Nominal External Pressure	Pa	519	506	607	517	755	624
Reduction in Internal Pressure (Ventilation)	Pa	56	69	78	83	91	77
Static Efficiency of Fans	%	42.9%	42.9%	45.9%	52.5%	47.7%	48.6%
Maximum Declared Internal/External Leakage Rate	%	-	-	-	-	-	-
Filter Classification		F7					
Description: Visual notice regarding filters		The filters warning is displayed on the unit's control system, either via a warning light or on-screen message, depending on the control system used. It is of the utmost importance to replace the filters regularly to improve the unit's performance and energy efficiency.					
Sound Power Level (Lwa)	dB(A)	44	47	51	52	56	59
Website		www.arfit.pt					