

ECOevo 3



Plug & Play


 EC
Technology


Controlled unit


 2 Levels of
filtration

 25 mm
panel

DESCRIPTION

Heat recovery unit ECOevo 3, sound-insulated, for indoor or outdoor installation, with removable side panels that facilitate access for maintenance. Incorporates integrated electrical panel with isolating switch for greater safety and ease of operation.

Robust construction with 25 mm double-wall panels, ensuring good thermal and acoustic insulation. The outer face in Magnelis steel with corrosion class C5 ensures high durability even in demanding environments.

Available in 5 sizes, with airflow rates between 2600 and 8700 m³/h, adapting to different ventilation applications. Equipped with EC Plug Fan and heat exchanger with efficiency up to 90%, enabling high energy efficiency and reduced consumption in HVAC systems.

STANDARDS AND CERTIFICATIONS



ADVANTAGES

- Modular monoblock Plug & Play unit designed for higher airflow rates.
- Double panels with 25 mm insulation.
- Corrosion class C5.
- Low-consumption electronically commutated motor.
- Possible integration of Be.On module with cloud connection and Be.Smart monitoring.
- 3-way valve and actuator included.
- Integrated electrical panel.

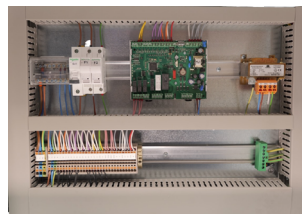
ACCESSORIES

- ePM10 50%/M5 filter
- ePM1 50%/F7 filter
- ePM1 80%/F9 filter
- Protection for rain
- Rain Roof
- Heating / cooling coil modules
- Acoustic attenuation module
- Constant airflow control
- CO₂ control

COMPONENTS

FILTERS

The filtration system includes two filters with filtration classes ePM10 50% (M5), ePM1 50% (F7) or ePM1 80% (F9), in accordance with EN 779 / ISO 16890. The parallel mounting system uses dedicated rails that ensure airtightness, maintaining bypass leakage within class F9 (EN 1886).



FAN

EC brushless Plug Fan with backward-curved blades, compact design and high available pressures. The aerodynamic rotor geometry, balanced according to ISO 1940 G2.5 and with vibration levels in accordance with AMCA 204, combined with EC motor with insulation class F and IP55 protection, ensures high capacity, efficiency and performance (IE5), even at high resistance levels.

**HEAT EXCHANGER**

Parallel-flow heat exchangers. Enable up to 90% recovery of sensible heat from exhaust air to supply air, with efficiency certified by Eurovent. The aluminium plate design with double-fold joints ensures structural integrity and airtightness under pressures up to 1500 Pa.

**WATER HEATING MODULE**

Water heating coil composed of copper tubes with aluminium fins, mechanically expanded to ensure maximum thermal contact. With steel or copper headers and galvanized steel structure, all units undergo strict quality control, with tightness and integrity verified at 32 bar in factory.

**CHANGE OVER MODULE**

Water coil allowing both heating and cooling with the same coil. Composed of copper tubes, aluminium fins mechanically expanded, copper headers and galvanized steel structure. Tightness and integrity are rigorously tested at 32 bar. Module equipped with stainless steel condensate tray. Includes 3-way valve and actuator.

DIRECT EXPANSION COOLING MODULE

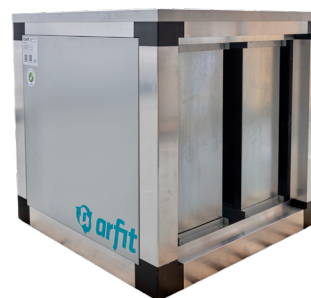
Direct expansion coil for R32 refrigerant. Composed of copper tubes, aluminium fins mechanically expanded, copper headers and galvanized steel structure. Factory tested at 60 bar. Equipped with stainless steel condensate tray.

ELECTRIC HEATING MODULE

Electric finned heating elements in 8 mm diameter steel tube with 25 x 50 mm fins of the same material, with quick-fix screw and M4 threaded terminals. Designed for air heating applications. Mounted in frame and placed on rails for easy removal.

ACOUSTIC ATTENUATION MODULE

Baffles made of mineral wool, with the air-contact surface in non-fragmenting material, protected by mesh or micro-perforated sheet, with galvanized steel

**CHARACTERISTICS**

ECOevo 3	40	44	56	66	87
Motor Power (kW)	2 x 1,35	2 x 1,35	2 x 2,5	2 x 2,5	2 x 2,5
Rotational Speed (rpm)	2920	2920	3640	2970	2650
Power Supply (V F Hz)	230 1 50			400 3 50	
IMAX (A)	11,9	11,9	7,9	7,9	8,5
Sound Pressure (dB(A)) **	53	54	60	57	65

** Sound pressure level at 4 m, measured in open field according to ISO 3744

BATTERY MODULES
WATER HEATING MODULE

Model	Airflow (m ³ /h)	Air inlet temperature (°C)	Air outlet temperature (°C)	Heating capacity (kW)	Air pressure drop (Pa)	Water flow rate (l/s)	Water pressure drop (kPa)
ECOEV0 3 40	3322	5	34	32	49,1	0,40	9,8
		10	36	30	49,5	0,36	8,8
		15	39	27	50,0	0,33	7,9
	2847	5	35	29	39,8	0,36	8,6
		10	38	27	40,2	0,33	7,8
		15	40	25	40,5	0,30	7,0
	2373	5	37	26	31,1	0,32	7,4
		10	40	24	31,4	0,29	6,8
		15	42	22	31,7	0,27	6,1
ECOEV0 3 44	4193	5	34	41	49,1	0,50	12,6
		10	36	38	49,5	0,46	10,9
		15	39	35	50,0	0,42	9,4
	3594	5	35	37	39,8	0,46	10,5
		10	38	34	40,2	0,42	9,3
		15	40	31	40,6	0,38	8,3
	2995	5	37	33	31,1	0,40	8,8
		10	40	30	31,4	0,37	8,0
		15	42	28	31,7	0,34	7,2
ECOEV0 3 56	4193	5	34	41	49,1	0,50	12,6
		10	36	38	49,5	0,46	10,9
		15	39	35	50,0	0,42	9,4
	3594	5	35	37	39,8	0,46	10,5
		10	38	34	40,2	0,42	9,3
		15	40	31	40,6	0,38	8,3
	2995	5	37	33	31,1	0,40	8,8
		10	40	30	31,4	0,37	8,0
		15	42	28	31,7	0,34	7,2
ECOEV0 3 66	5717	5	34	56	49,1	0,68	11,4
		10	36	51	49,5	0,63	9,8
		15	39	47	50,0	0,58	8,7
	4900	5	35	50	39,8	0,62	9,6
		10	38	46	40,2	0,57	8,6
		15	40	43	40,5	0,52	7,7
	4084	5	37	45	31,1	0,55	8,2
		10	40	41	31,4	0,51	7,4
		15	42	38	31,7	0,46	6,7
ECOEV0 3 87	9198	5	34	91	49,1	1,11	21,1
		10	37	84	49,5	1,03	18,2
		15	39	77	50,0	0,94	15,5
	7884	5	36	82	39,8	1,01	17,6
		10	38	76	40,2	0,93	15,2
		15	41	69	40,6	0,85	13,0
	6570	5	38	73	31,1	0,89	14,2
		10	40	67	31,4	0,83	12,3
		15	42	62	31,7	0,76	10,5

Airflow velocities: 3,5; 3,0; 2,5 m/s

Water temperature : 80°C / 60°C

RH: 80%



BATTERY MODULES

CHANGE OVER MODULE

Heating mode Model	Airflow (m³/h)	Air inlet temperature (°C)	Air outlet temperature (°C)	Heating capacity (kW)	Air pressure drop (Pa)	Water flow rate (l/s)	Water pressure drop (kPa)
ECOEV0 3 40	4110	5	31	37	46,7	1,78	61,3
		10	33	32	47,1	1,55	47,5
		15	34	27	47,5	1,32	35,4
	3620	5	32	34	39,4	1,62	51,7
		10	34	29	39,6	1,41	40,2
		15	35	25	40,0	1,20	29,9
	2960	5	34	29	30,0	1,40	39,5
		10	35	25	30,2	1,21	30,6
		15	36	21	30,4	1,03	22,8
ECOEV0 3 44	4960	5	32	46	39,9	2,22	51,6
		10	33	39	40,2	1,90	39,2
		15	35	33	40,5	1,61	29,0
	4500	5	33	43	34,9	2,06	45,3
		10	34	37	35,2	1,77	34,4
		15	35	31	35,5	1,50	25,5
	4000	5	33	39	29,8	1,87	37,9
		10	35	34	30,0	1,62	29,3
		15	36	28	30,3	1,37	21,8
ECOEV0 3 56	5580	5	31	50	46,8	2,42	60,4
		10	33	44	47,1	2,10	46,9
		15	34	36	47,5	1,76	33,9
	4910	5	32	46	39,3	2,20	50,9
		10	33	39	39,6	1,89	38,6
		15	35	33	40,0	1,60	28,7
	4020	5	33	39	30,0	1,87	38,1
		10	35	34	30,2	1,63	29,6
		15	36	29	30,5	1,38	21,9
ECOEV0 3 66	6630	5	31	58	46,7	2,82	38,4
		10	32	51	47,1	2,44	29,5
		15	34	43	47,5	2,07	21,7
	5840	5	32	53	39,3	2,57	32,4
		10	33	46	39,6	2,23	24,9
		15	35	39	40,0	1,88	18,4
	4480	5	34	44	27,5	2,11	22,5
		10	35	38	27,7	1,83	17,4
		15	36	32	27,9	1,55	12,8
ECOEV0 3 87	8890	5	31	80	46,8	3,84	51,3
		10	33	69	47,1	3,34	39,8
		15	34	58	47,5	2,79	28,7
	7820	5	32	73	39,3	3,50	43,2
		10	33	62	39,6	3,00	32,7
		15	35	53	39,9	2,54	24,2
	6400	5	33	62	29,9	2,98	32,3
		10	35	54	30,2	2,59	25,0
		15	36	45	30,4	2,19	18,5

Airflow at velocities: 2,5; 2,2; 1,8 m/s

Water temperature : 45°C / 40°C

RH: 80%


BATTERY MODULES
CHANGE OVER MODULE

Cooling mode Model	Airflow (m³/h)	Air inlet temperature (°C)	Air outlet temperature (°C)	Cooling capacity (kW)	Air pressure drop (Pa)	Water flow rate (l/s)	Water pressure drop (kPa)
ECOEV0 3 40	4110	31	19	24	67,7	1,16	33,4
		28	18	18	67,5	0,88	20,2
		25	16	14	60,7	0,69	13,1
	3620	31	19	23	58,4	1,08	29,1
		28	17	17	58,2	0,81	17,6
		25	16	13	52,0	0,63	11,3
	2960	31	18	20	46,1	0,95	23,4
		28	17	15	45,9	0,72	14,1
		25	15	12	40,7	0,55	9,0
ECOEV0 3 44	4960	31	19	31	59,0	1,47	29,1
		28	17	23	58,8	1,11	17,5
		25	16	18	52,6	0,86	11,3
	4500	31	19	29	52,7	1,38	26,0
		28	17	22	52,5	1,04	15,8
		25	15	17	46,7	0,80	10,0
	4000	31	18	27	45,9	1,28	22,8
		28	17	20	45,7	0,97	13,9
		25	15	16	40,5	0,74	9,0
ECOEV0 3 56	5580	31	19	33	67,8	1,58	33,1
		28	18	25	67,5	1,19	19,9
		25	16	20	60,8	0,93	12,9
	4910	31	19	31	58,4	1,46	28,8
		28	17	23	58,1	1,10	17,3
		25	16	18	52,0	0,85	11,1
	4020	31	18	27	46,2	1,28	22,9
		28	17	20	46,0	0,97	13,9
		25	15	16	40,7	0,74	9,0
ECOEV0 3 66	6630	31	19	38	67,7	1,83	20,2
		28	18	29	67,5	1,37	12,1
		25	16	22	60,7	1,06	8,2
	5840	31	19	36	58,4	1,69	17,6
		28	17	27	58,1	1,27	10,4
		25	16	20	52,0	0,97	7,4
	4480	31	18	30	42,8	1,44	13,1
		28	17	22	42,6	1,07	8,3
		25	16	16	37,6	0,74	5,5
ECOEV0 3 87	8890	31	19	52	67,8	2,50	27,6
		28	18	39	67,5	1,88	16,6
		25	16	31	60,7	1,47	10,7
	7820	31	19	48	58,3	2,31	24,0
		28	17	36	58,1	1,73	14,4
		25	16	28	51,9	1,35	9,3
	6400	31	18	43	46,1	2,04	19,2
		28	17	32	45,9	1,53	11,5
		25	15	25	40,7	1,17	7,8

Airflow at velocities:: 2,5; 2,2; 1,8 m/s

Water temperature : 7°C / 12°C

RH: 50%



BATTERY MODULES

DIRECT EXPANSION MODULE

Heating mode Model	Airflow (m³/h)	Air inlet temperature (°C)	Air outlet temperature (°C)	Heating capacity (kW)	Air pressure drop (Pa)
ECOEV0 3 40	3750	5	32	34	43,4
		10	33	30	43,7
		15	35	26	44,1
	3300	5	33	31	36,5
		10	34	27	36,8
		15	36	24	37,1
	2700	5	34	27	27,8
		10	36	24	28,0
		15	37	21	28,2
ECOEV0 3 44	4920	5	31	44	43,4
		10	33	39	43,7
		15	35	34	44,1
	4330	5	32	40	36,5
		10	34	36	36,8
		15	36	31	37,1
	3540	5	34	35	27,8
		10	35	31	28,0
		15	37	27	28,2
ECOEV0 3 56	4920	5	31	44	43,4
		10	33	39	43,7
		15	35	34	44,1
	4330	5	32	40	36,5
		10	34	36	36,8
		15	36	31	37,1
	3540	5	34	35	27,8
		10	35	31	28,0
		15	37	27	28,2
ECOEV0 3 66	6130	5	32	57	43,5
		10	34	51	43,8
		15	36	44	44,2
	5390	5	33	52	36,5
		10	35	46	36,8
		15	37	40	37,1
	4410	5	35	45	27,8
		10	36	40	28,0
		15	38	35	28,3
ECOEV0 3 87	8260	5	33	78	43,5
		10	34	69	43,8
		15	36	60	44,1
	7270	5	34	71	36,5
		10	35	63	36,8
		15	37	55	37,1
	5950	5	35	62	27,9
		10	37	55	28,1
		15	38	47	28,3

Airflow at velocities:: 2,5; 2,2; 1,8 m/s

Condensing temperature R32: 50°C

RH: 80%

BATTERY MODULES
DIRECT EXPANSION MODULE

Cooling mode Model	Airflow (m³/h)	Air inlet temperature (°C)	Air outlet temperature (°C)	Cooling power (kW)	Air pressure drop (Pa)
ECOEV0 3 40	3750	31	18	26	62,1
		28	16	21	61,8
		25	15	17	61,5
	3300	31	18	24	53,4
		28	16	20	53,2
		25	14	15	52,9
	2700	31	17	21	42,2
		28	15	17	42,0
		25	14	14	41,8
ECOEV0 3 44	4920	31	18	35	62,2
		28	16	28	61,9
		25	15	22	61,6
	4330	31	18	32	53,5
		28	16	26	53,3
		25	14	21	53,0
	3540	31	17	28	42,2
		28	15	23	42,1
		25	14	18	41,9
ECOEV0 3 56	4920	31	18	35	62,2
		28	16	28	61,9
		25	15	22	61,6
	4330	31	18	32	53,5
		28	16	26	53,3
		25	14	21	53,0
	3540	31	17	28	42,2
		28	15	23	42,1
		25	14	18	41,9
ECOEV0 3 66	6130	31	18	43	62,4
		28	16	35	62,1
		25	15	27	61,8
	5390	31	18	39	53,6
		28	16	32	53,4
		25	14	25	53,2
	4410	31	17	35	42,3
		28	15	29	42,2
		25	14	23	42,0
ECOEV0 3 87	8260	31	18	57	62,4
		28	16	47	62,1
		25	15	37	61,8
	7270	31	18	53	53,6
		28	16	43	53,4
		25	14	34	53,2
	5950	31	17	47	42,4
		28	15	39	42,2
		25	14	31	42,0

Airflow at velocities:: 2,5; 2,2; 1,8 m/s

Evaporation temperature R32: 5°C

RH: 50%



BATTERY MODULES

ELECTRIC HEATING MODULE

Heating mode Model	Airflow (m³/h)	Air inlet temperature (°C)	Air outlet temperature (°C)	Heating capacity (kW)
ECOEV0 3 40	3320	5	21	18
		10	10	
		15	15	
	2845	5	5	
		10	10	
		15	15	
	2375	5	5	
		10	10	
		15	15	
ECOEV0 3 44	4195	5	24	27
		10	10	
		15	15	
	3595	5	5	
		10	10	
		15	15	
	2995	5	5	
		10	10	
		15	15	
ECOEV0 3 56	4195	5	24	27
		10	10	
		15	15	
	3595	5	5	
		10	10	
		15	15	
	2995	5	5	
		10	10	
		15	15	
ECOEV0 3 66	5715	5	24	36
		10	10	
		15	15	
	4900	5	5	
		10	10	
		15	15	
	4085	5	5	
		10	10	
		15	15	
ECOEV0 3 87	9200	5	20	48
		10	10	
		15	15	
	7885	5	5	
		10	10	
		15	15	
	6570	5	5	
		10	10	
		15	15	

Airflow at velocities: 3,5; 3,0; 2,5 m/s

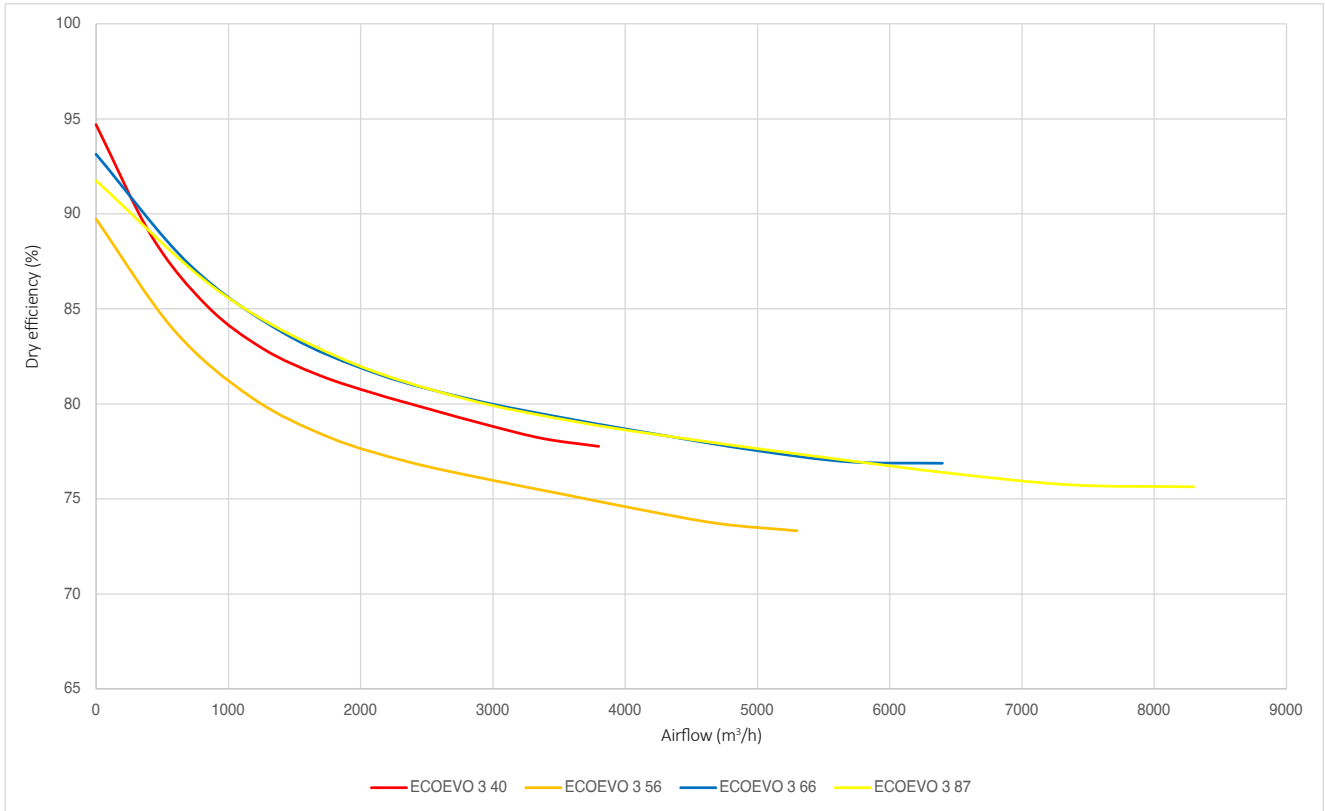
RH: 80%

ACOUSTIC ATTENUATION MODULE

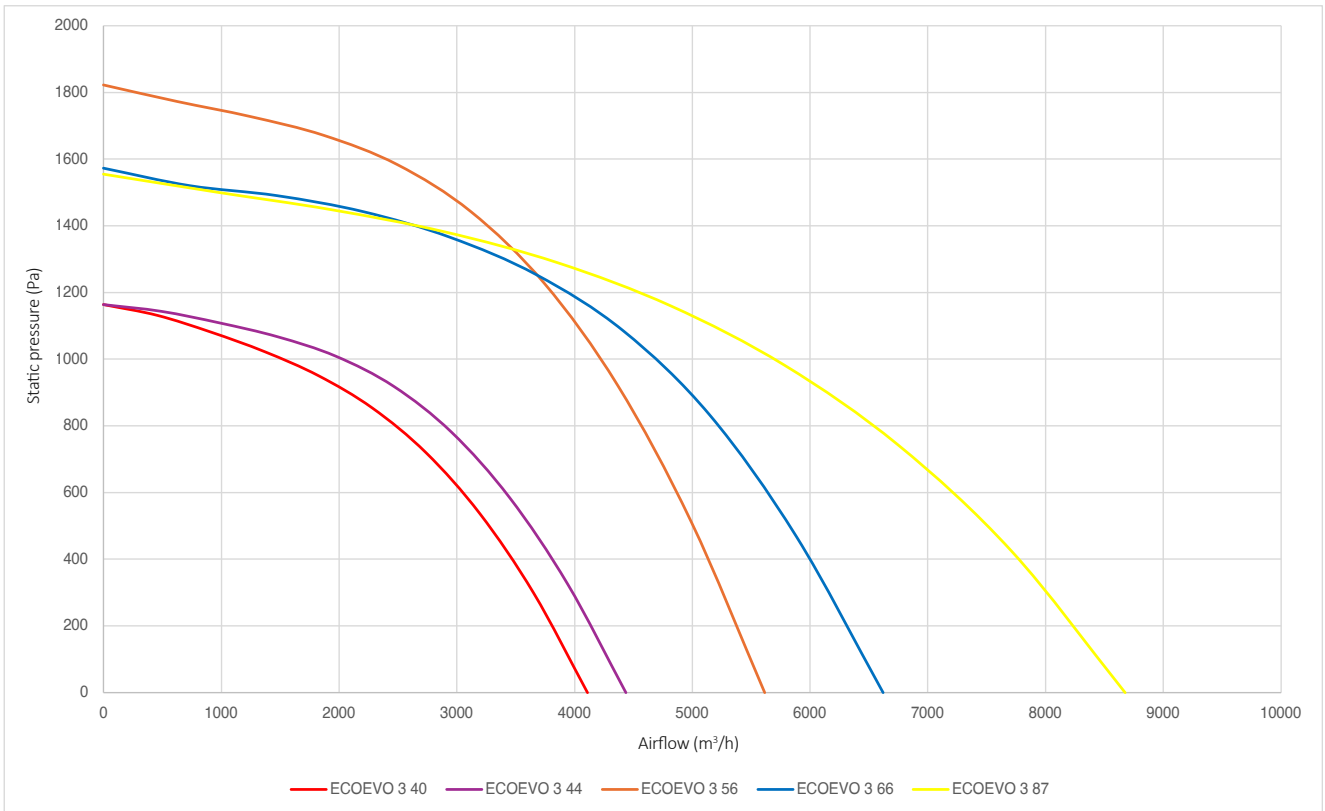
Model	Airflow (m³/h)	Air pressure drop (Pa)	Acoustic attenuation - Frequency (Hz)								
			63	125	250	500	1000	2000	4000	8000	Total dB(A)
ECOEV0 3 40	2800	21									
	3300	28	2	5	9	14	19	17	13	10	19
	3800	43									
ECOEV0 3 44	3000	17									
	3600	23	3	6	11	16	23	22	17	14	20
	4200	32									
ECOEV0 3 56	3900	24									
	4600	41	3	6	11	16	23	22	17	14	20
	5300	53									
ECOEV0 3 66	5000	40									
	5700	63	3	6	11	16	23	22	17	14	20
	6400	78									
ECOEV0 3 87	6900	68									
	7600	80	2	5	9	14	19	17	13	10	19
	8300	93									

PERFORMANCE CURVES

RECOVERY EFFICIENCY CURVE



ECOEVO 3 ePM10 50%/M5

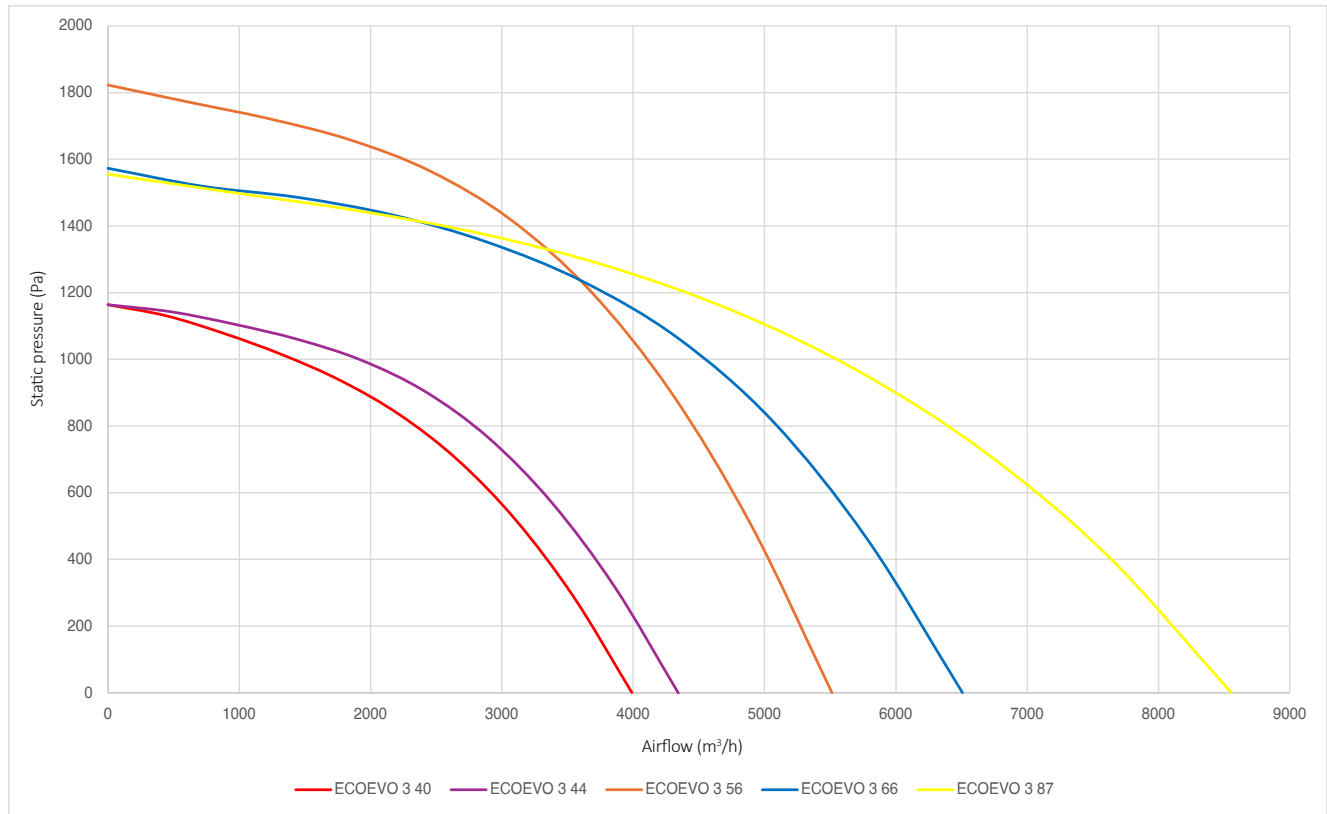




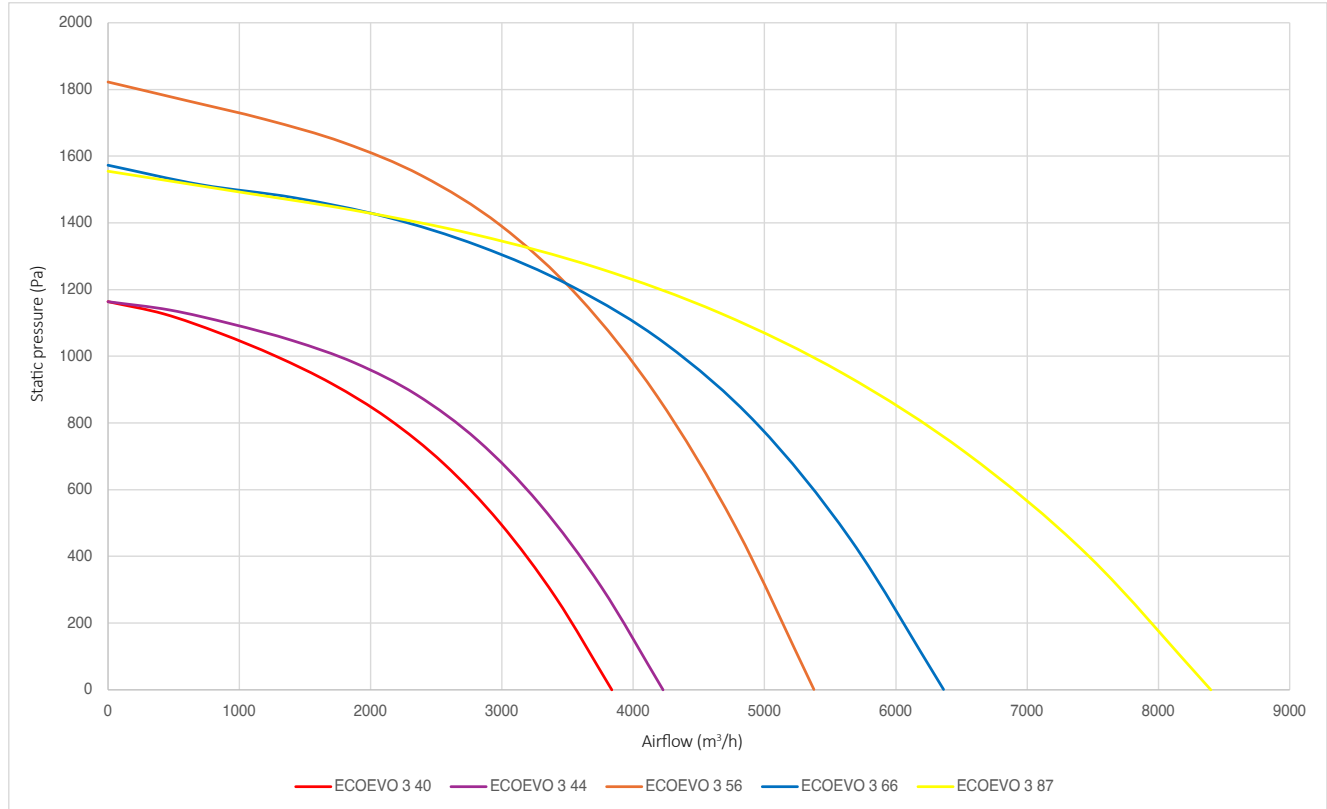
PERFORMANCE CURVES

HEAT RECOVERY

ECOEV0 3 ePM1 50%/F7

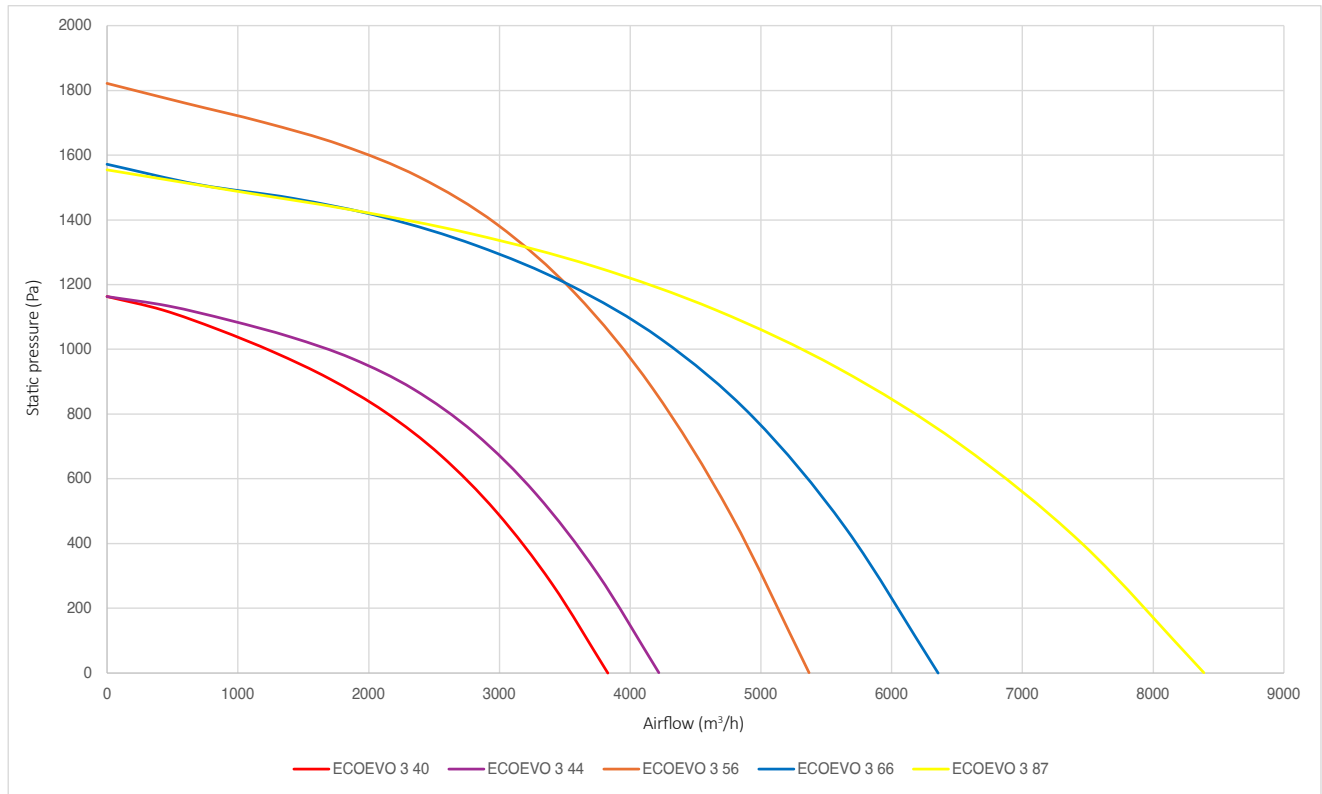


ECOEV0 3 ePM1 80%/F9

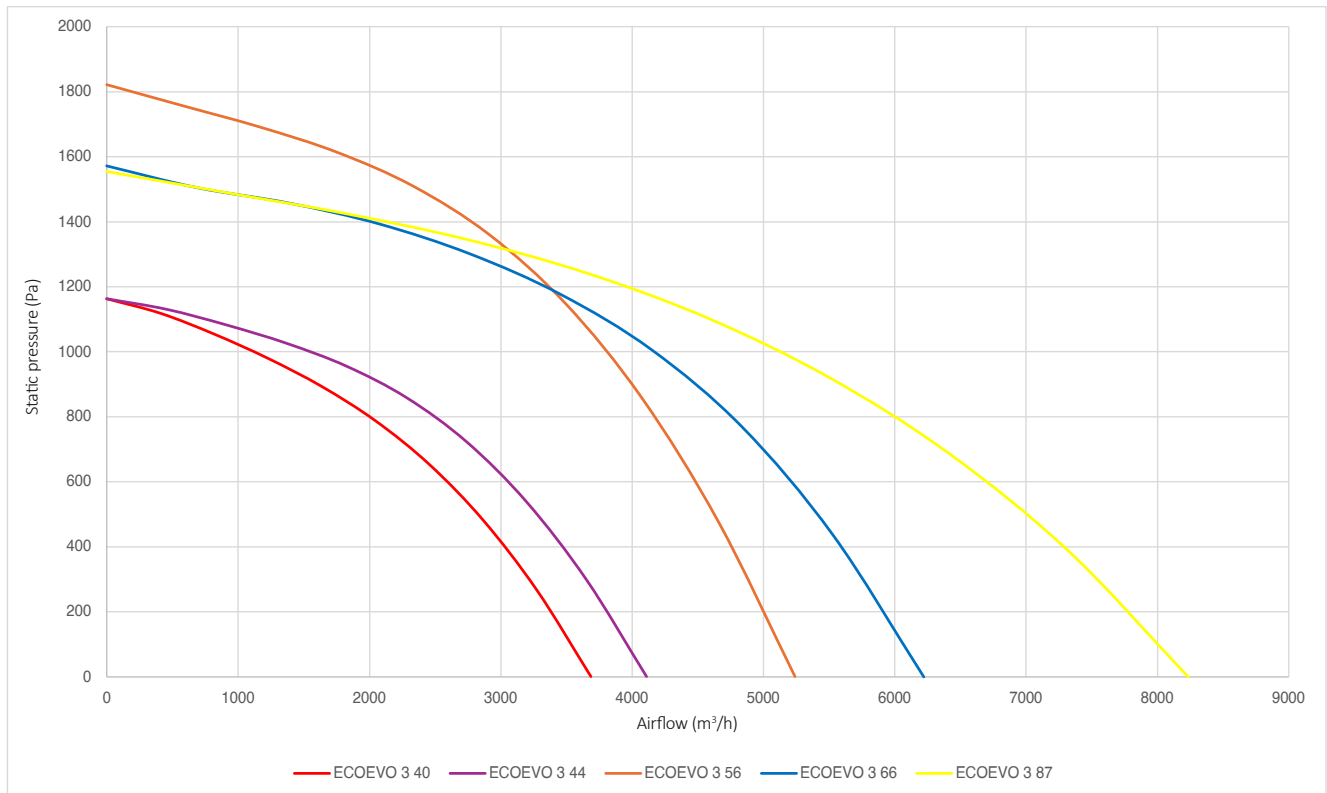


PERFORMANCE CURVES

ECOEVO 3 ePM10 50%/M5 + ePM1 50%/F7



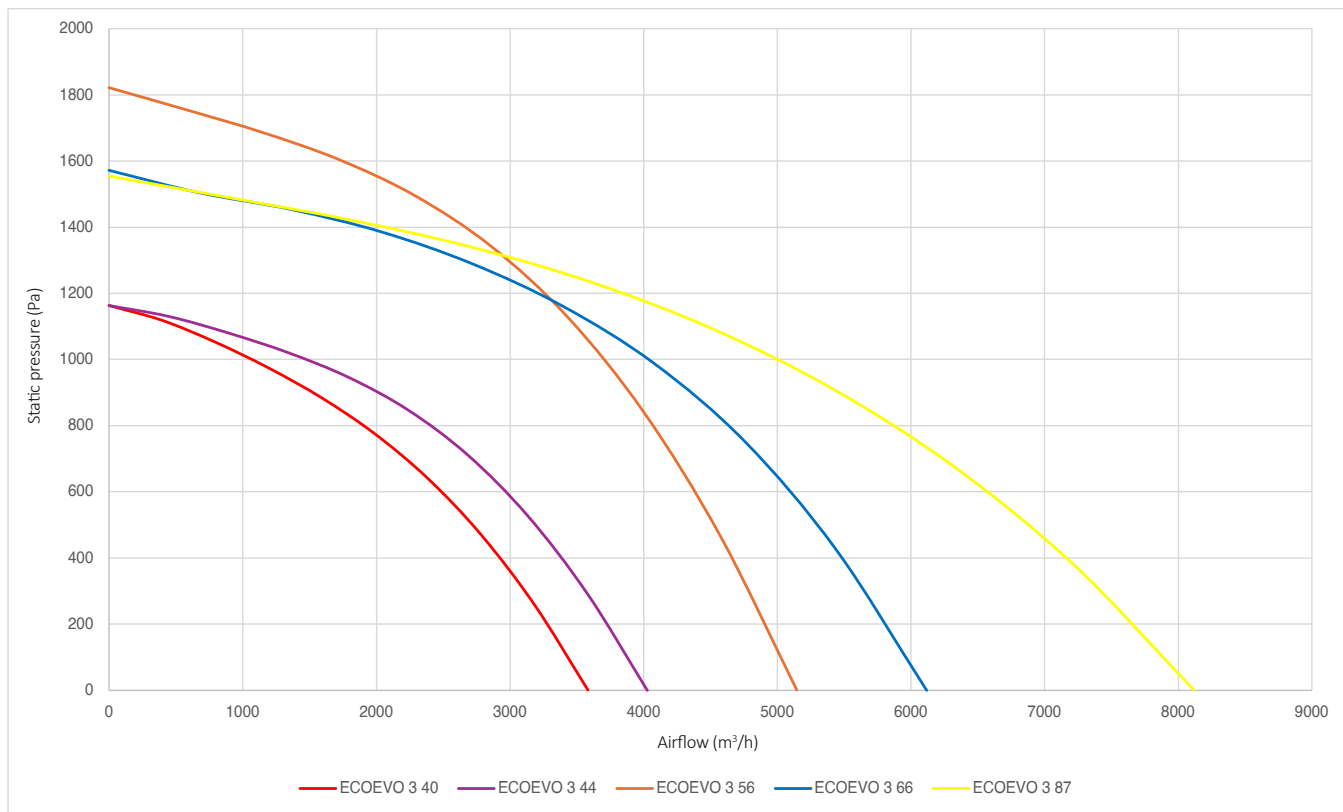
ECOEVO 3 ePM10 50%/M5 + ePM1 80%/F9



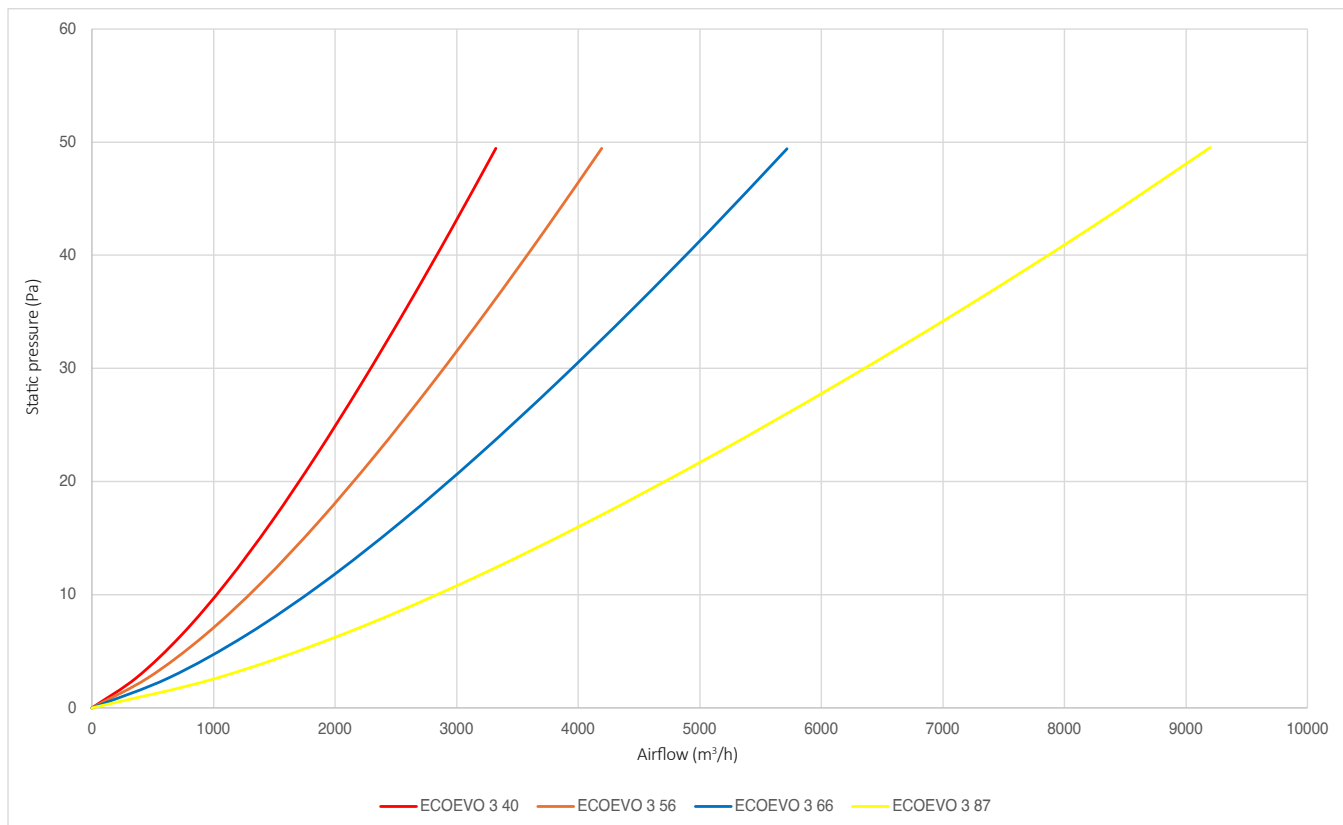


PERFORMANCE CURVES

ECOevo 3 ePM1 50%/F7 + ePM1 80%/F9



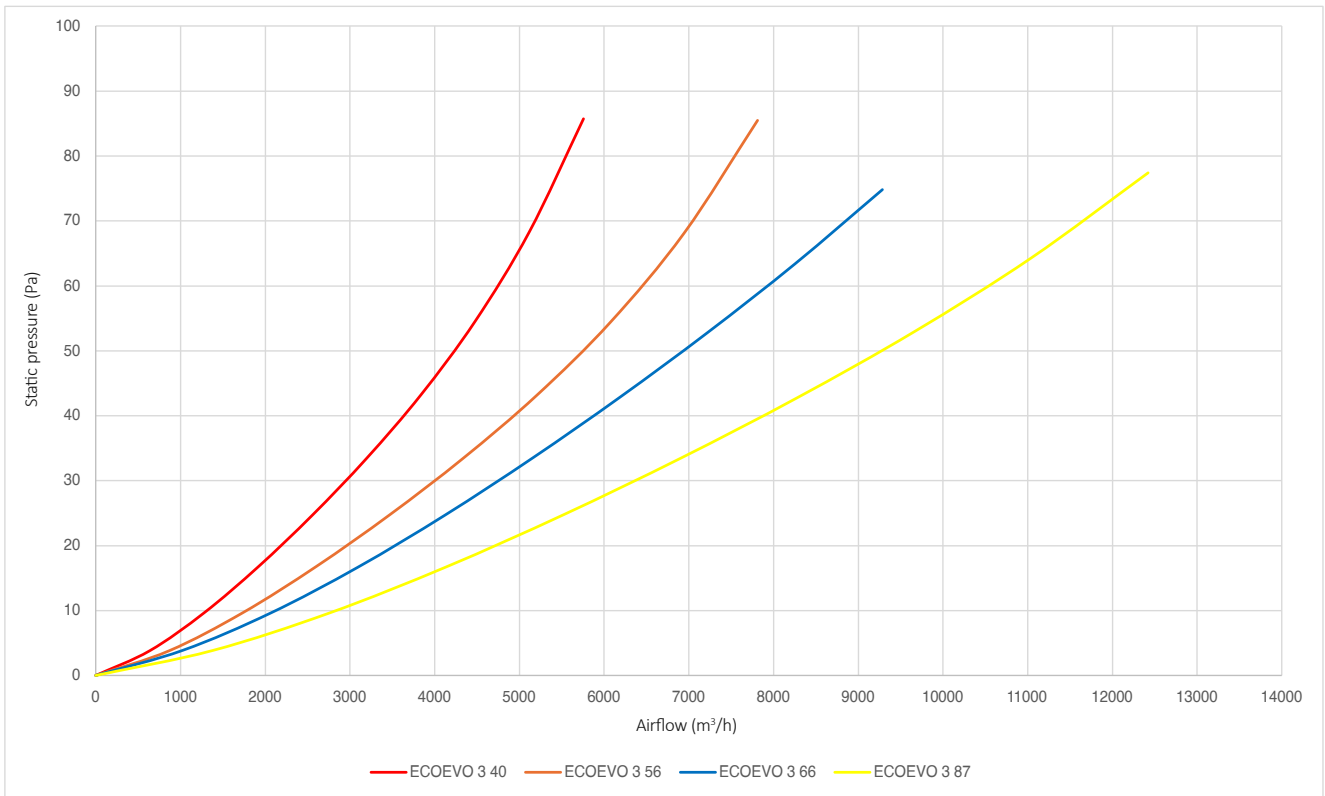
ECOevo 3 WATER HEATING MODULE



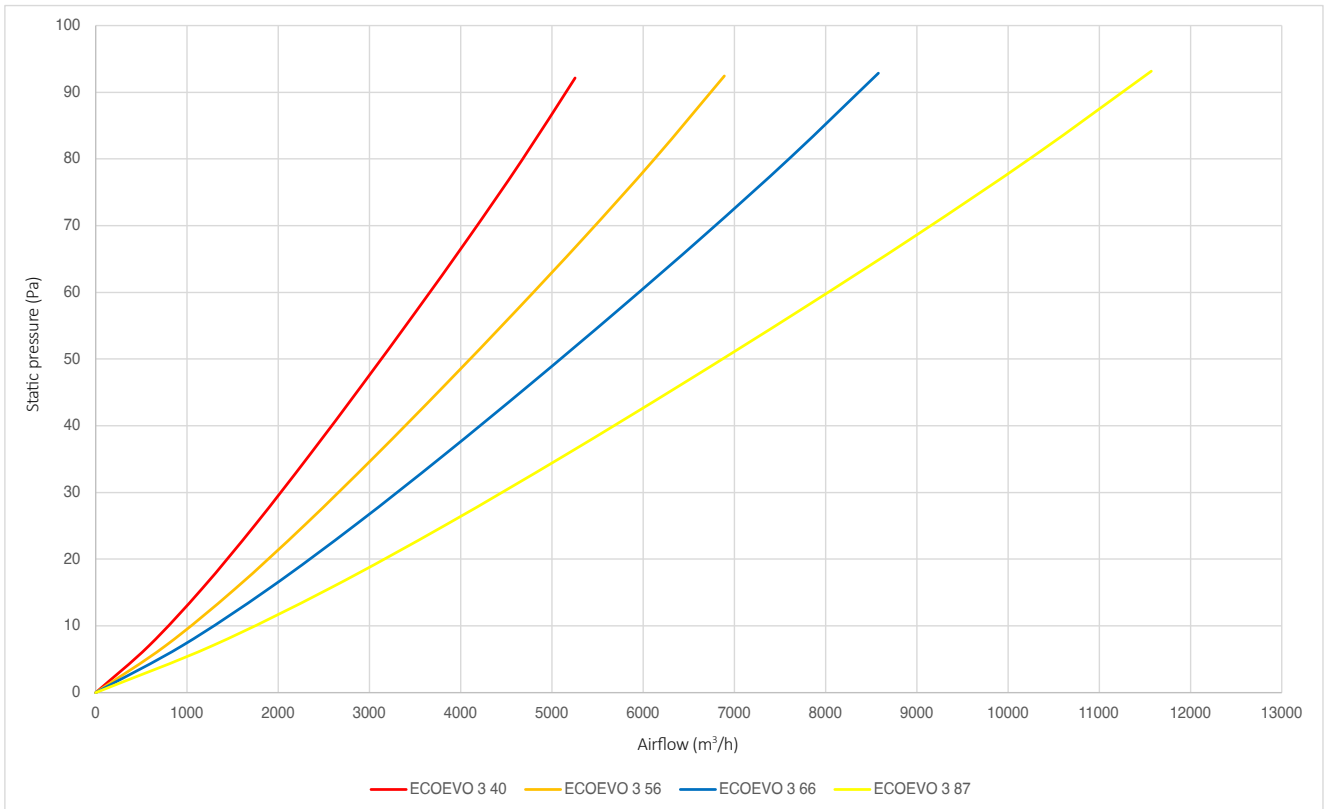


PERFORMANCE CURVES

ECOEOVO 3 CHANGE OVER MODULE



ECOEOVO 3 DX MODULE



DX COIL - DIRECT EXPANSION COIL



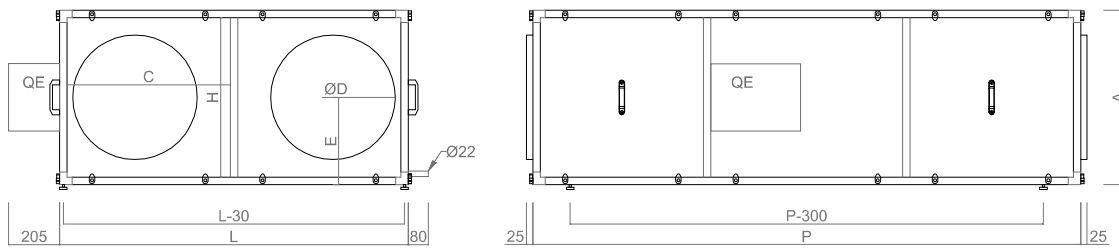
DIMENSIONS

ECCOEVO 3 H	40	44	56	66	87
A (mm)	600	700	700	900	1150
L (mm)	1300	1400	1400	1400	1650
P (mm)	2200	2200	2200	2300	2900
D (mm)	450	500	500	500	630
C (mm)	605	655	655	655	780
H (mm)	540	640	640	840	1090
E (mm)	300	350	350	450	575
Weight (kg)	327	360	365	440	659

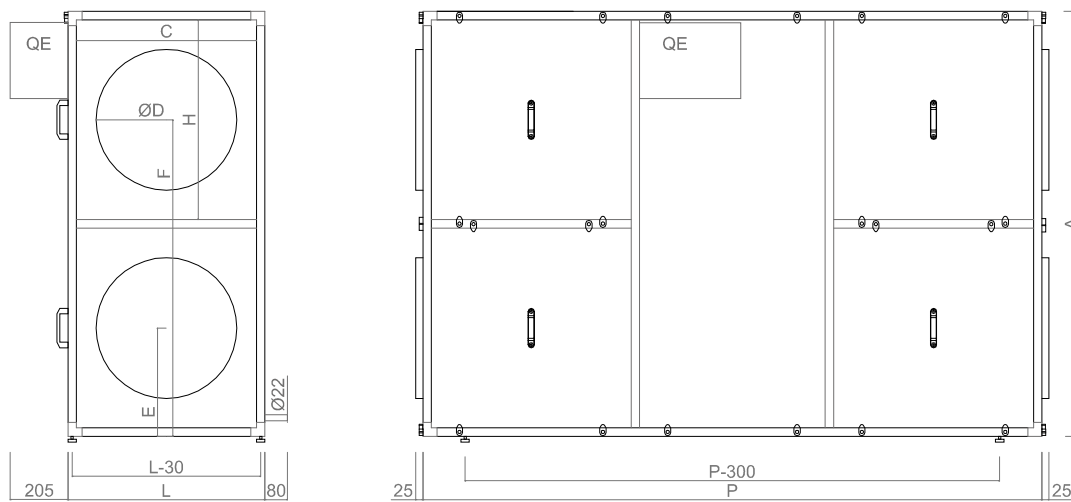
ECCOEVO 3 V	40	44	56	66	87
A (mm)	1410	1510	1510	1520	1760
L (mm)	600	700	700	900	1150
P (mm)	2200	2200	2200	2400	3000
D (mm)	450	500	500	500	630
C (mm)	540	640	640	840	1090
H (mm)	660	710	710	715	835
E (mm)	360	385	385	388	448
F (mm)	1050	1125	1125	1133	1313
Weight (kg)	327	360	365	440	659

DIMENSIONS

ECOEVO 3 H



ECOEVO 3 V



NOTE: MAINTENANCE CLEARANCE AND UNIT ACCESS DISTANCE | 750 MM



DIMENSIONS

WATER HEATING MODULE

ECCOEV0 3 / BAA	40	44	56	66	87
A (mm)	600	700	700	900	1150
L (mm)	725	775	775	775	900
P (mm)	350	350	350	350	350
Ø Hydraulic Connection (pol.)	3/4"	3/4"	3/4"	3/4"	1"
Weight (kg)	37	42	42	50	68

CHANGE OVER MODULE

ECCOEV0 3 / BCA	40	44	56	66	87
A (mm)	600	700	700	900	1150
L (mm)	800	850	850	850	975
P (mm)	865	1030	1030	1190	1205
Ø Hydraulic Connection (pol.)	1"	1 1/4"	1 1/4"	1 1/4"	1 1/2"
Ø Condensate Outlet (mm)			22		
Weight (kg)	99	129	129	157	194

DIRECT EXPANSION MODULE

ECCOEV0 3 / BCR	40	44	56	66	87
A (mm)	600	700	700	900	1150
L (mm)	800	850	850	850	975
P (mm)	865	1030	1030	1190	1205
Ø Liquid (mm)	28	28	28	35	42
Ø Steam (mm)	16	22	22	28	28
Ø Condensate Outlet (mm)			22		
Weight (kg)	98	120	123	152	188

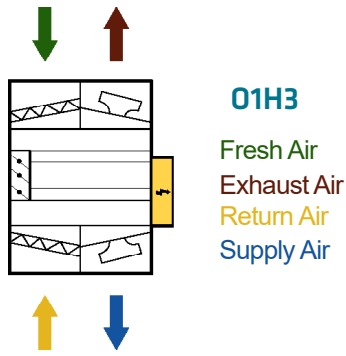
ELECTRIC HEATING MODULE

ECCOEV0 3 / BRE	40	44	56	66	87
A (mm)	600	700	700	900	1150
L (mm)	725	775	775	775	900
P (mm)	350	350	350	350	350
Weight (kg)	29	35	35	43	56

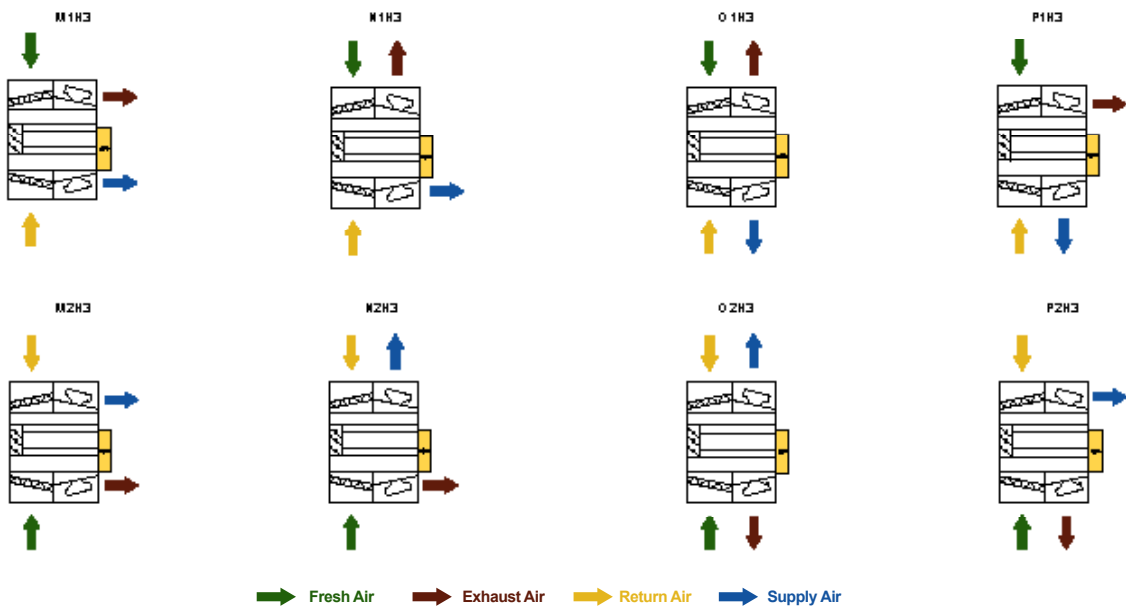
ACOUSTIC ATTENUATION MODULE

ECCOEV0 3 / MAA	40	44	56	66	87
A (mm)	600	700	700	900	1150
L (mm)	650	700	700	700	825
P (mm)	700	700	700	700	700
Weight (kg)	42	54	54	62	75

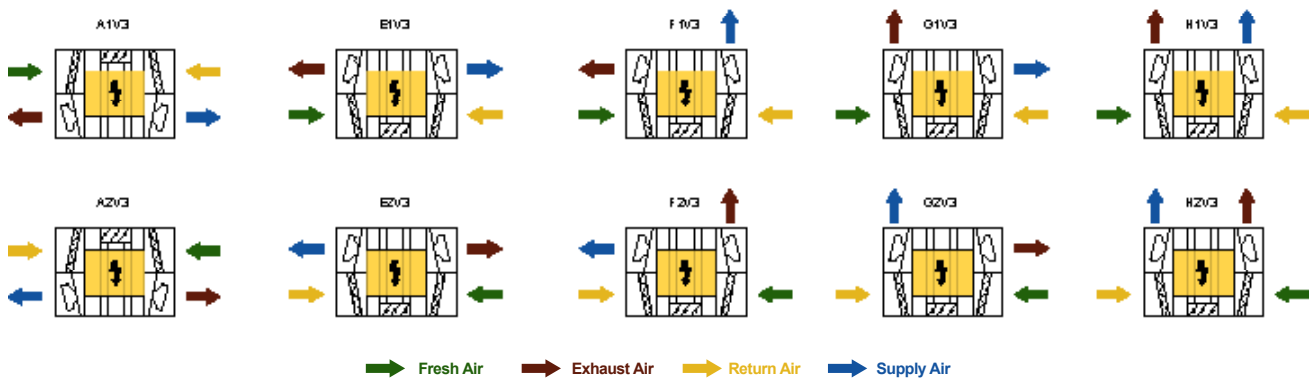
STANDARD CONFIGURATIONS HORIZONTAL MODEL



CONFIGURATIONS HORIZONTAL MODEL



CONFIGURATIONS VERTICAL MODEL



NOTE: FOR VERTICAL MODELS, IT IS NOT POSSIBLE TO INSTALL AN OUTDOOR ROOF IN CONFIGURATIONS F, G, AND H



ERP VERIFICATION DOCUMENT

MANUFACTURER		ARFIT AIR CONDITIONING, S.A.				
Model		40	44	56	66	87
Type		UVNR UVB				
Transmission Type		Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Heat Recovery System Type		OTHER				
Heat Recovery Thermal Efficiency	%	77.2	74.3	73.7	76.7	75.5
Nominal Airflow	m ³ /s	0.986	1.164	1.319	1.7	2.133
Input Power	kW	1.311	1.19	2.381	2.15	3.268
SPFint	W m ² /s	1570.2	1462.6	1421.5	1440.9	1372.9
Frontal Velocity	m/s	6.20	5.93	6.72	8.66	6.85
Nominal External Pressure	Pa	285	107	607	256	385
Decrease in internal pressure ventilation	Pa	499	379	456	421	359
Static Efficiency of Fans	%	59.0	47.6	59.0	53.5	48.6
Maximum Declared Internal/External Leakage Rate	%	4,1/3,8	4,2/3,8	4,1/3,8	4,3/3,9	4,4/4,0
Filter Classification		F7/M5				
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)	73	74	80	77	85
Website		www.arfit.pt				