NOXA AIR

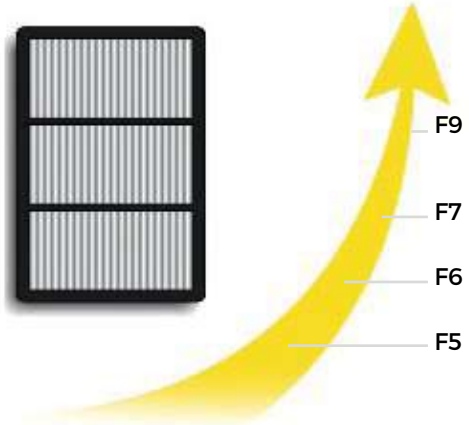
HEAT RECOVERY UNIT

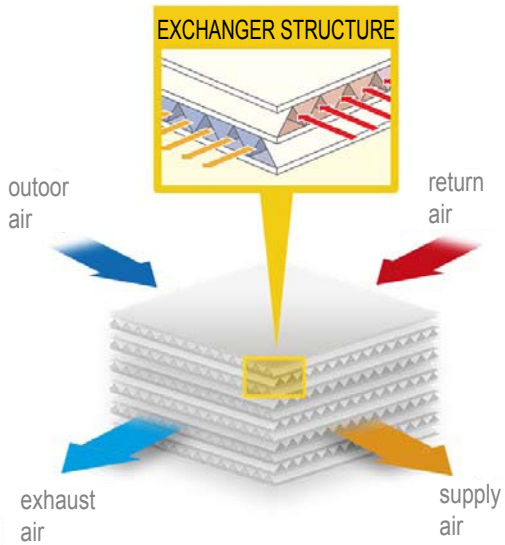
ERV series

ERP 2018 COMPLIANCE

ADVANCED FILTRATION SYSTEM

As a standard, NOXA ERV heat recovery units are equipped with the filtration system, based on a set of G3 pre-filters installed on the air inlet and outlet. Additionally, in order to obtain high air quality in a room, a whole range of high efficiency filters is available, starting from F5 up to F9 filter. Choice of the filtration class makes it possible to adapt functionality of the heat recovery unit to the customer needs.





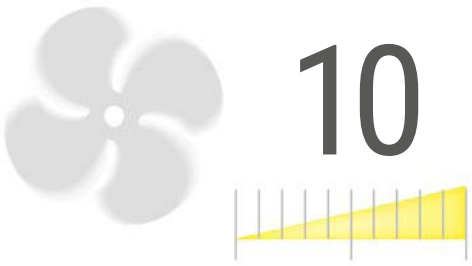
ADVANCED, ENTHALPY, CROSS-FLOW HEAT EXCHANGER

NOXA heat recovery units are equipped with high performance enthalpy heat exchanger that enables higher percentage values of temperature recovery, both in summer and winter. Cross-flow exchanger provides also moisture recovery between air supplied to the room and exhaust air, supporting thereby further increase of occupants comfort.

NIGHT **FREE-COOLING**

Warm air accumulated during the whole day is removed and exchanged by cold air during the night. This functionality lowers building thermal load and also general temperature of the usable space (ie. office, public utility or residual buildings).

The lower thermal load of the building, before powering the air-conditioning system, shortens its operating time and leads to savings.



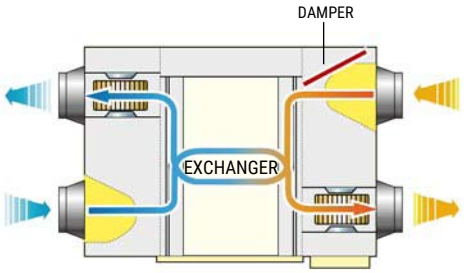
10 FAN SPEEDS

Each NOXA ERV unit features the latest, brushless BLDC motors equipped with 10 speeds, which precisely provide the adequate amount of air in any conditions.

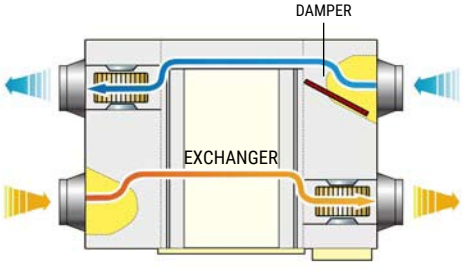
AUTO BY-PASS

When the outdoor temperature reaches the proper value (Tz ranges e.g. from 18 to 23 °C - possible to set using the wired controller), the by-pass system damper opens and fans, same as in the night free-cooling mode, switch to the high speed.

HEAT RECOVERY MODE



BY-PASS MODE



NOISE LEVEL

NOXA ERV units features a very low noise level of less than 50 dB(A) for most of models.

	Sound level dB			
silence	0		Audibility threshold	NOXA ERV operation sound lovel
almost inaudible	10	paper rustling		
barely heard	20	ticking clock		
very quiet	30	quiet garden		
quiet	40	TV studio		
rather quiet	50	talk		
moderately loud	60	office	Mid-range of audible frequencies	
loud	70	road traffic		
very loud	80	loud radio		
very loud	90	plant floor		
extreme loud	100	jackhammer	Threshold of pain	
unbearable	110	rock concert		
	120	airplane		
pain	130			

AVAILABLE ADDITIONAL CONNECTORS

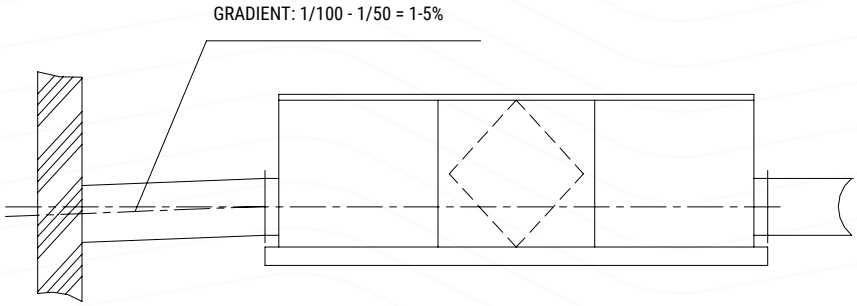
NOXA ERV units are equipped with additional contacts available on the PCB, that extend their functionality. The option to connect CO_2 and humidity sensors increases level of comfort in use and its safety. Available, additional potential-free contact enables connecting the unit with a ventilation hood and cooperation of both devices.

DOUBLE ALARM OF FILTER CONTAMINATION

Double protection against filter contamination applied in the NOXA ERV heat recovery unit, significantly increased the operational safety level of the unit. The built-in alarm provides the user with setting the reminder of service or filter replacement in range from 45 do 180 days. Pressure value measurement offers certainty of correct operation of the NOXA ERV units, thanks to the installed pressure switch.

EXAMPLE OF NOXA ERV HEAT RECOVERY UNITS APPLICATION

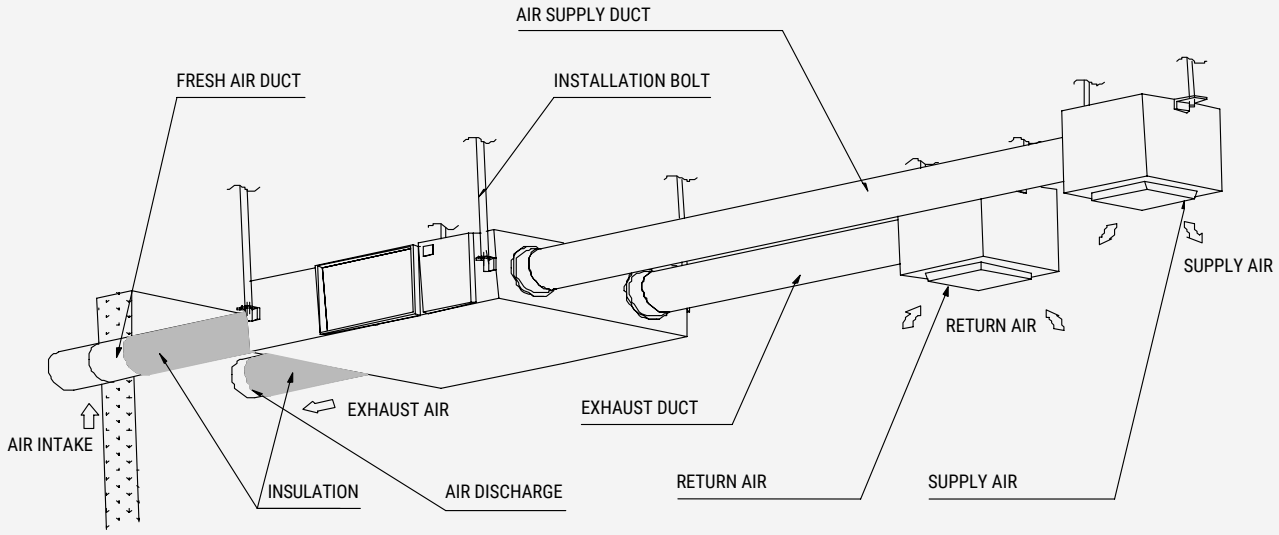
In order to avoid condensation inside the duct it is important to insulate both conduits leading outside (fresh air and exhaust air duct). Additionally, the duct supplying fresh air to the unit and removing outside filtered air, should be installed with inclination, in order to avoid possible flooding of exchanger.



TECHNICAL DATA

Model			NXERV-150V1			NXERV-250V1			NXERV-350V1			NXERV-500V1		
Power supply		Hz/-/V	50/1/220-240			50/1/220-240			50/1/220-240			50/1/220-240		
Speed			Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)
Available fan speeds	Supply fan		10			10			10			10		
	Exhaust fan		10			10			10			10		
Rated airflow		m^3/h	14	79	150	25	130	250	36	180	350	50	250	500
Recovery efficiency: temperature		%	80	80	75	81	81	73	82	82	74	84	84	76
Recovery efficiency: enthalpy	Heating	%	65	65	60	71	71	62	70	70	62	72	72	63
	Cooling	%	70	70	63	73	73	65	73	73	65	75	75	67
Sound pressure level in the heat exchange mode		dB(A)	31,5			34,5			37,5			39		
By-Pass			Yes			Yes			Yes			Yes		
Static pressure		Pa	20	40	70	10	40	90	15	50	140	10	40	110
Filtering class	G3 (supply/exhaust)		Standard			Standard			Standard			Standard		
	F9 (supply)		Standard			Standard			Standard			Standard		
	F5 / F6 / F7 (supply)		Option			Option			Option			Option		
Maximum power input		kW	0,038			0,075			0,107			0,14		
Maximum current input		A	0,32			0,67			0,82			1,04		
Overall dimensions	Height	mm	264			270			270			270		
	Width	mm	580			599			804			904		
	Depth	mm	736			814			814			894		
Weight		kg	25			27			33			38		
Connection flange diameter		mm	4 x Ø144			4 x Ø144			4 x Ø144			4 x Ø194		
Cable cross-section	Supply cable	mm^2	2x 1.5			2x 1.5			2x 1.5			2x 1.5		
	Control cable	mm^2	2x 0.5			2x 0.5			2x 0.5			2x 0.5		

EXAMPLE OF **ERV INSTALLATION**



NXERV-650V1			NXERV-800V1			NXERV-1000V1			NXERV-1300V1			NXERV-1500V1			NXERV-2000V1		
50/1/220-240			50/1/220-240			50/1/220-240			50/1/220-240			50/1/220-240			50/1/220-240		
Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)	Low (1)	Medium (5)	High (10)
10			10			10			10			10			10		
10			10			10			10			10			10		
65	330	650	90	400	800	120	500	1000	130	650	1300	150	750	1500	200	1000	2000
74	82	74	82	82	76	82	82	76	82	82	74	80	80	76	82	82	76
67	67	60	71	71	63	68	68	60	71	71	58	71	71	63	68	68	60
71	71	65	73	73	65	72	72	62	75	75	59	73	73	65	72	72	62
41			42			43			43			50			51,5		
Yes			Yes			Yes			Yes			Yes			Yes		
10	40	100	30	50	140	30	70	140	30	70	135	10	30	95	10	45	115
Standard			Standard			Standard			Standard			Standard			Standard		
Standard			Standard			Standard			Standard			Standard			Standard		
Option			Option			Option			Option			Option			Option		
0,16			0,192			0,312			0,365			0,46			0,61		
1,18			1,38			2,11			2,58			4,6			4,9		
388			388			388			388			785			785		
884			1134			1216			1216			884			1134		
1186			1186			1199			1199			1486			1486		
62			72			81			81			114			162		
4 x Ø242			4 x Ø242			4 x Ø242			4 x Ø242			2x 280/650			2x 280/650		
2x 1.5			2x 1.5			2x 1.5			2x 1.5			2x 1.5			2x 1.5		
2x 0.5			2x 0.5			2x 0.5			2x 0.5			2x 0.5			2x 0.5		

WIRED REMOTE CONTROLLER

Heat recovery units can be controlled by one of the available wall-mounted, wired remote controllers. As a standard, the NOXA ERV units are equipped with a basic, mechanical controller. The touch panel controller is available as an optional equipment.

NXERV_ST2

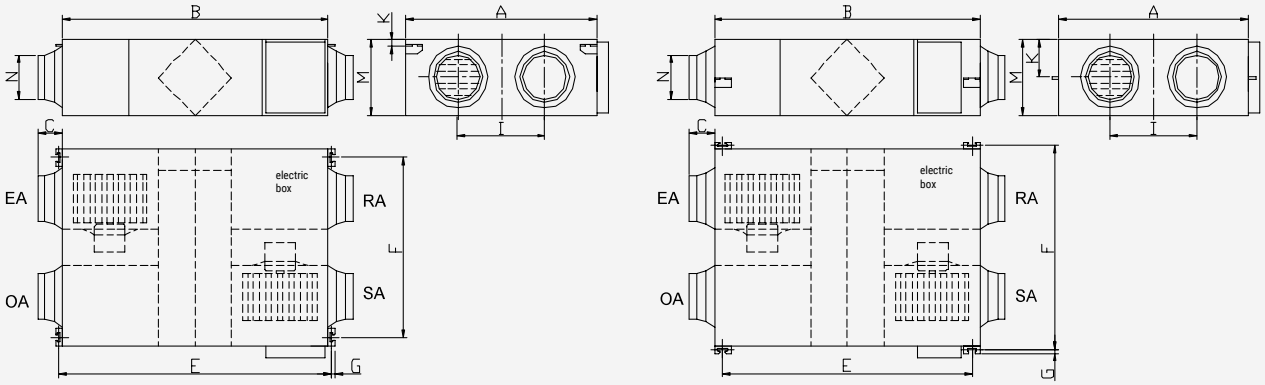
NXERV_ST1

No.	Functionality	Standard controller	Advanced controller (option)
		NXERV_ST1	NXERV_ST2
1	Timer	•	•
2	Control of the fan 10 speeds	•	•
3	Night free-cooling (available potential-free contact for the external temperature sensor)	•	•
4	Real time clock	•	•
5	Auto by-pass mode (required external temperature sensor)	•	•
6	Control of the electric post-heater	•	•
7	Control of the filter contamination (double protection system)	•	•
8	Temperature setting range (with connected heater)	•	•
9	Cooperation with the ventilation hood (forced ventilation)	•	•
10	Humidity sensor support	–	•
11	CO_2 (carbon dioxide) sensor support	•	•
12	Humidity level display	–	•
13	CO_2 concentration level display	–	•
14	BMS system compatibility (RS485 transmission)	•	•
15	Exchanger defrost function	•	•
16	Information regarding filter replacement (time and pressure difference message)	•	•
17	Touchscreen display	–	•
18	Operation stop in case of fire (cooperation with fire protection system by the connection of smoke sensor)	•	•
19	Automatic operation mode (auto mode after connecting: CO_2/humidity sensor)	•/–	•/•

ERV ACCESSORIES

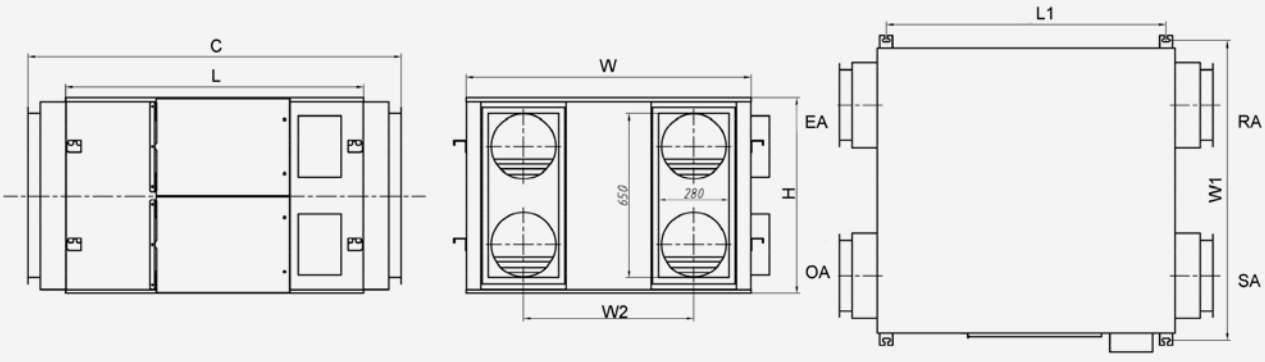
Model	Description	Applicable model	Remarks
F5 class filter (EU5)			
NXFLT5.1	F5 class filters - optional equippment NXERV-.....V1	NXERV-150V1	set consists of: 1 filter
NXFLT5.2	F5 class filters - optional equippment NXERV-.....V1	NXERV-250V1	set consists of: 1 filter
NXFLT5.3	F5 class filters - optional equippment NXERV-.....V1	NXERV-350V1	set consists of: 2 filters
NXFLT5.4	F5 class filters - optional equippment NXERV-.....V1	NXERV-500V1	set consists of: 2 filters
NXFLT5.5	F5 class filters - optional equippment NXERV-.....V1	NXERV-800V1; NXERV-2000V1;	set consists of: NXERV-800V1: 2 filters ; NXERV-2000V1: 4 filters
NXFLT5.6	F5 class filters - optional equippment NXERV-.....V1	NXERV-1000V1; NXERV-1300V1;	set consists of: NXERV-1000V1: 2 filter ; NXERV-1300V1: 2 filters
NXFLT5.7	F5 class filters - optional equippment NXERV-.....V1	NXERV-650V1; NXERV-1500V1;	set consists of: NXERV-6500V1: 2 filter ; NXERV-1500V1: 4 filters
F6 class filter (EU6)			
NXFLT6.1	F6 class filters - optional equippment NXERV-.....V1	NXERV-150V1	set consists of: 1 filter
NXFLT6.2	F6 class filters - optional equippment NXERV-.....V1	NXERV-250V1	set consists of: 1 filter
NXFLT6.3	F6 class filters - optional equippment NXERV-.....V1	NXERV-350V1	set consists of: 2 filters
NXFLT6.4	F6 class filters - optional equippment NXERV-.....V1	NXERV-500V1	set consists of: 2 filters
NXFLT6.5	F6 class filters - optional equippment NXERV-.....V1	NXERV-800V1; NXERV-2000V1;	set consists of: NXERV-800V1: 2 filters ; NXERV-2000V1: 4 filters
NXFLT6.6	F6 class filters - optional equippment NXERV-.....V1	NXERV-1000V1; NXERV-1300V1;	set consists of: NXERV-1000V1: 2 filter ; NXERV-1300V1: 2 filters
NXFLT6.7	F6 class filters - optional equippment NXERV-.....V1	NXERV-650V1; NXERV-1500V1;	set consists of: NXERV-6500V1: 2 filter ; NXERV-1500V1: 4 filters
F7 class filter (EU7)			
NXFLT7.1	F7 class filters - optional equippment NXERV-.....V1	NXERV-150V1	set consists of: 1 filter
NXFLT7.2	F7 class filters - optional equippment NXERV-.....V1	NXERV-250V1	set consists of: 1 filter
NXFLT7.3	F7 class filters - optional equippment NXERV-.....V1	NXERV-350V1	set consists of: 2 filters
NXFLT7.4	F7 class filters - optional equippment NXERV-.....V1	NXERV-500V1	set consists of: 2 filters
NXFLT7.5	F7 class filters - optional equippment NXERV-.....V1	NXERV-800V1; NXERV-2000V1;	set consists of: NXERV-800V1: 2 filters ; NXERV-2000V1: 4 filters
NXFLT7.6	F7 class filters - optional equippment NXERV-.....V1	NXERV-1000V1; NXERV-1300V1;	set consists of: NXERV-1000V1: 2 filter ; NXERV-1300V1: 2 filters
NXFLT7.7	F7 class filters - optional equippment NXERV-.....V1	NXERV-650V1; NXERV-1500V1;	set consists of: NXERV-6500V1: 2 filter ; NXERV-1500V1: 4 filters
F9 class filter (EU9)			
NXFLT9.1	F9 class filters - optional equippment NXERV-.....V1	NXERV-150V1	set consists of: 1 filter
NXFLT9.2	F9 class filters - optional equippment NXERV-.....V1	NXERV-250V1	set consists of: 1 filter
NXFLT9.3	F9 class filters - optional equippment NXERV-.....V1	NXERV-350V1	set consists of: 2 filters
NXFLT9.4	F9 class filters - optional equippment NXERV-.....V1	NXERV-500V1	set consists of: 2 filters
NXFLT9.5	F9 class filters - optional equippment NXERV-.....V1	NXERV-800V1; NXERV-2000V1;	set consists of: NXERV-800V1: 2 filters ; NXERV-2000V1: 4 filters
NXFLT9.6	F9 class filters - optional equippment NXERV-.....V1	NXERV-1000V1; NXERV-1300V1;	set consists of: NXERV-1000V1: 2 filter ; NXERV-1300V1: 2 filters
NXFLT9.7	F9 class filters - optional equippment NXERV-.....V1	NXERV-650V1; NXERV-1500V1;	set consists of: NXERV-6500V1: 2 filter ; NXERV-1500V1: 4 filters
Control			
NXERV_ST1	Wall-mounted controller with weekly timer	NXERV (all models)	standard equippment
NXERV_ST2	Wall-mounted touch display controller with weekly timer	NXERV (all models)	optional equippment
Additionally accessories			
NXERV_HMD	Humidity sensor	NXERV (all models)	Compatible with advanced touch controller
NXERV_CO2	CO_2 sensor	NXERV (all models)	Compatible with standard and advanced touch controller
Electric heater			
NXENO-160-1.0-1-CBF	Electric pre-heater with capacity of 1.0 kW	NXERV-150V1	on request
NXENO-160-1.0-1-CBF	Electric pre-heater with capacity of 1.6 kW	NXERV-250V1	on request
NXENO-160-1.6-1-CBF	Electric pre-heater with capacity of 1.6 kW	NXERV-350V1	on request
NXENO-200-2.0-1-CBF	Electric pre-heater with capacity of 2.0 kW	NXERV-500V1	on request
NXENO-250-3.0-1-CBF	Electric pre-heater with capacity of 3.0 kW	NXERV-650V1; NXERV-800V1;	on request
NXENO-250-3.6-2-CBF	Electric pre-heater with capacity of 3.6 kW	NXERV-1000V1	on request
NXEN-40x40-6.0-3-CBF	Electric pre-heater with capacity of 6.0 kW	NXERV-1500V1	on request
NXEN-40x	Electric pre-heater with capacity of 6.0 kW	NXERV-2000V1	on request

UNIT **DIMENSIONS** [mm]



Model	A	B	C	E	F	G	I	K	M	N
NXERV-150V1	580	736	100	795	510	19	290	20	264	144
NXERV-250V1	599	814	100	675	657	19	315	111	270	144
NXERV-350V1	804	814	100	675	862	19	480	111	270	144
NXERV-550V1	904	894	107	754	960	19	500	111	270	194
NXERV-650V1	884	1186	85	1115	940	19	428	170	388	242
NXERV-800V1	1134	1186	85	1115	1190	19	678	170	388	242
NXERV-1000V1	1216	1199	85	1130	1273	19	621	171	388	242
NXERV-1300V1	1216	1199	85	1130	1273	19	621	171	388	242

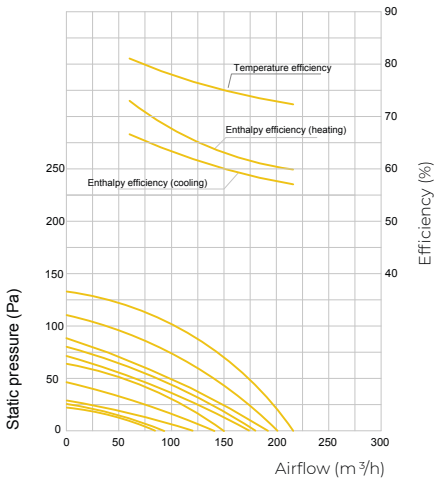
UNIT **DIMENSIONS** [mm]



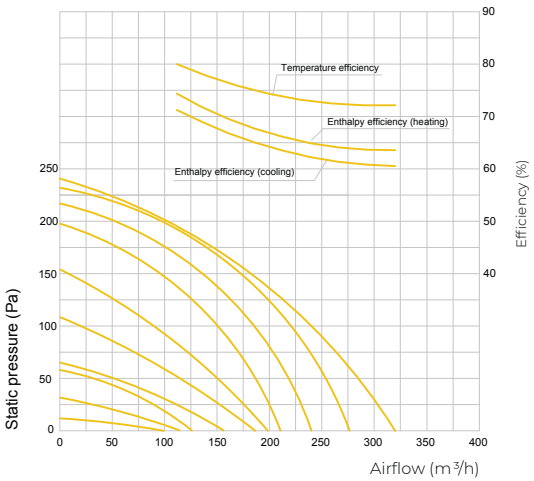
Model	C	L	L1	W	W1	W2	H
NXERV-1500V1	1486	1186	1115	884	940	428	785
NXERV-2000V1	1486	1186	1115	1134	1190	678	785

CAPACITY CHARACTERISTICS

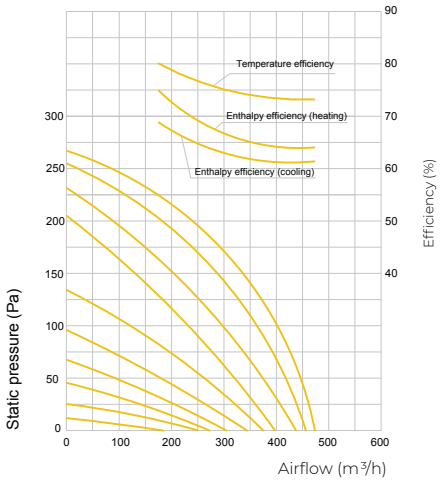
NXERV-150V1



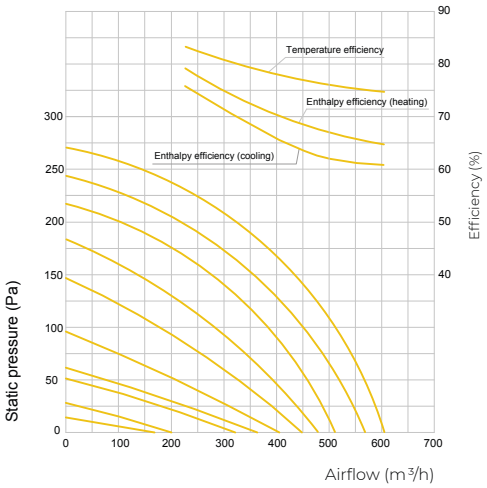
NXERV-250V1



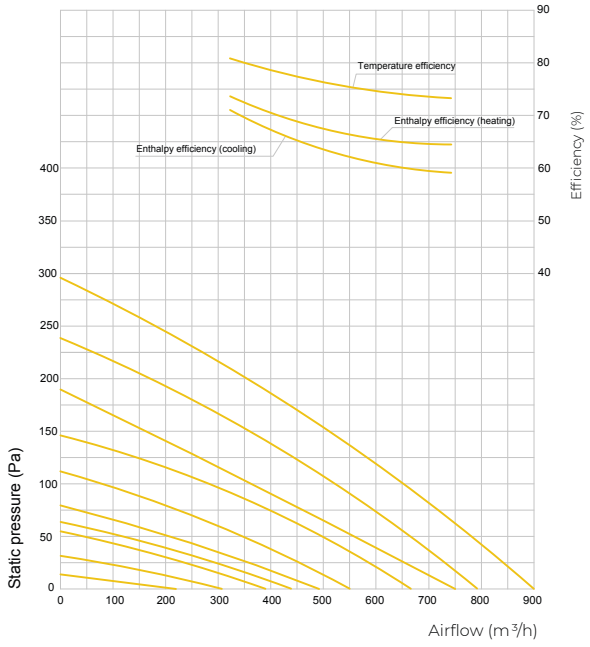
NXERV-350V1



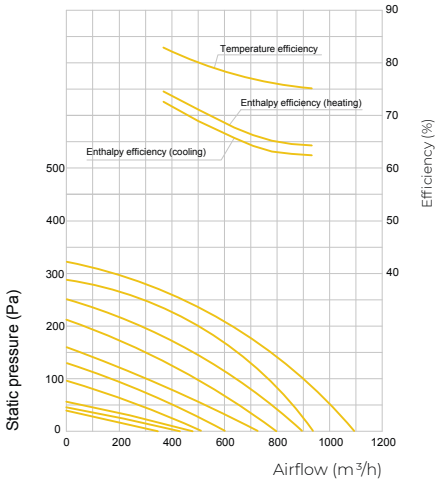
NXERV-500V1



NXERV-650V1

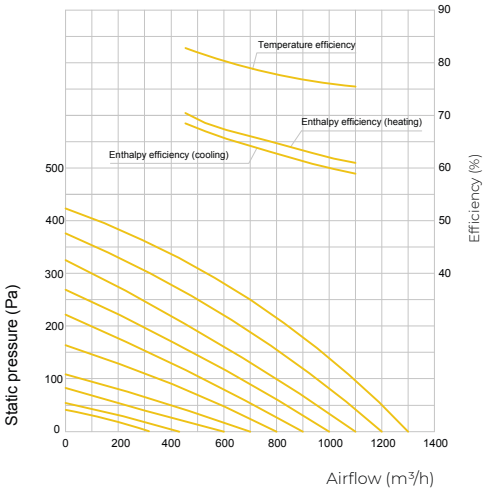


NXERV-800V1

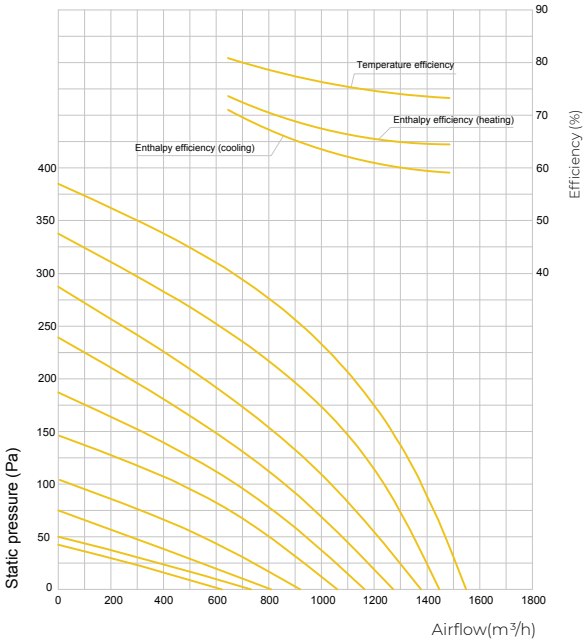


CAPACITY CHARACTERISTICS

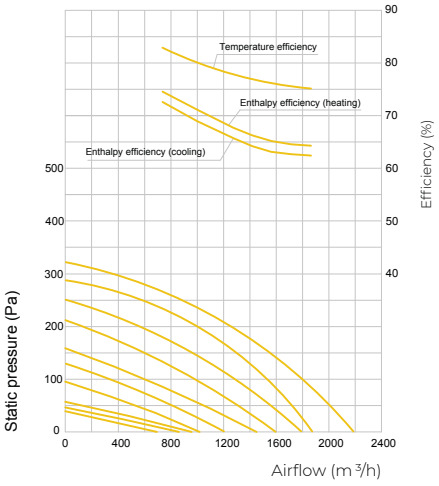
NXERV-1000V1



NXERV-1300V1



NXERV-1500V1



NXERV-2000V1