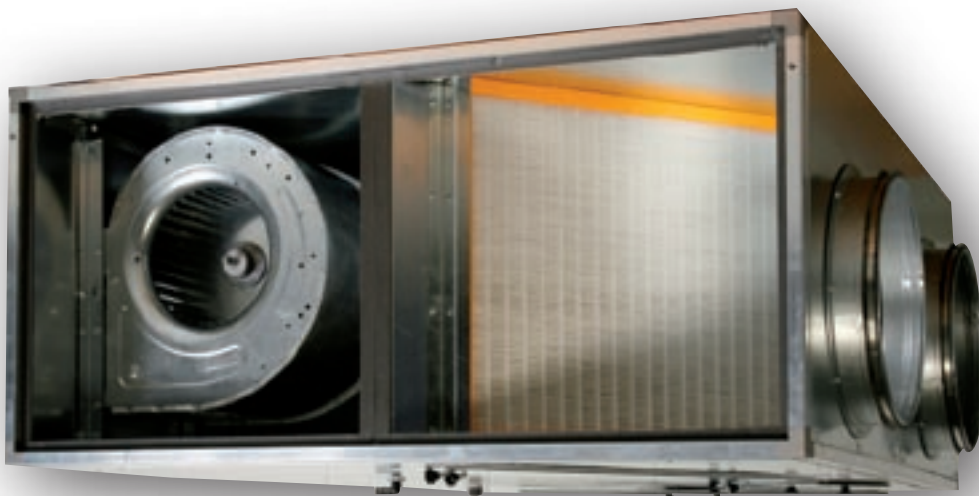


Vort NRG

HEAT RECOVERY UNITS



VENTILATION
AIR CONDITIONING
AIR CLEANING
HEATING



CE

VORT NRG



NEW



CROSS FLOW HEAT RECOVERY UNITS

Applications

- Designed for energy saving and indoor air quality control within ventilation systems.
- Particularly suitable for commercial premises such as: bars, pubs, restaurants, canteens, offices, meeting rooms, shops, dancing halls etc.
- False ceiling mounting.



KEY FEATURES

- Recovery of more than 50% of the heat otherwise lost.
- Lower running costs of heating/air conditioning.
- Filtration of the supply and exhaust air.
- Quality marks guarantee safety and quality.

VORT NRG

Technical specifications

- Extruded aluminium profile structure and galvanised steel sandwich panels (18/25 mm thickness) with expanded polyurethane insulation.
- Circular spigots on the outlet and inlet panels.
- Interchangeable panels to allow the outlet and inlet spigots to be positioned on site as required.
- Centrifugal blowers mounted on the interchangeable panels.
- Supply and exhaust ventilators can be individually regulated.
- Single phase motors (230V – 50 Hz), 2 or 4 poles, 4 speeds (Vort NRG 500 – 800 – 1200), 3 speeds (Vort NRG 2000 – 2500 – 3000).
- Three phase motors (400V – 50 Hz), 4 poles, 1 speed (Vort NRG 4000 – 5000 – 6000).
- Aluminium cross-flow static heat exchanger (with more than 50% efficiency).
- Equipped with F5 filters, easily removable for periodic replacement and maintenance.
- F7 filters available (accessory).
- Possibility of lodging pressure sockets to measure the filters loss of pressure.
- Condensation drainage system.
- Mounting brackets included.
- Post-heating or cooling water coil (accessory).
- Pre- and post-heating electric heaters (accessory).
- Speed regulators available (accessory).



RANGE

Model	Code	Max air flow m³/h
Single-phase		
Vort NRG 500	45150	500
Vort NRG 800	45151	900
Vort NRG 1200	45152	1250
Vort NRG 2000	45154	2200
Vort NRG 2500	45155	2800
Vort NRG 3000	45156	3500
Three-phase		
Vort NRG 4000	45157	4500
Vort NRG 5000	45158	5600
Vort NRG 6000	45159	6500



VORT NRG

TECHNICAL DATA

Model	Vort NRG 500 code 45150	Vort NRG 800 code 45151	Vort NRG 1200 code 45152	Vort NRG 2000 code 45153	Vort NRG 2500 code 45155	Vort NRG 3000 code 45156	Vort NRG 4000 code 45157	Vort NRG 5000 code 45158	Vort NRG 6000 code 45159
Nominal air flow - m³/h*	430	800	1200	1800	2500	3000	4000	5000	5800
Residual pressure at nominal flow - Pa*	100	165	155	150	185	170	260	220	200
Max. air flow - m³/h	500	900	1250	2200	2800	3500	4500	5600	6500
Total max. power draw appliance - A	1,2	2,7	4,0	5,4	8,7	7,8	6,0	7,8	8,2
IP protection rating	20	20	20	20	20	20	20	20	20
Temperature range	0-45°C	0-45°C	0-45°C	0-45°C	0-45°C	0-45°C	0-45°C	0-45°C	0-45°C
FANS									
Installed power - W	140x2	310x2	450x2	600x2	950x2	900x2	1650x2	1950x2	2300x2
Poles	2	2	2	4	4	4	4	4	4
Max. power draw - A	0,6x2	1,35x2	2,0x2	2,7x2	4,35x2	3,9x2	3,0x2	3,9x2	4,1x2
Fan speeds	4	4	4	3	3	3	1	1	1
Insulation class	F	F	F	F	F	F	F	F	F
Power supply - V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50
Insulation	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1	Cl. 1
Noise radiated at 1.5m - Lp dB(A)	42	49	53	49	51	53	46	54	56
HEAT RECOVERY UNIT**									
Efficiency - %	50,1	52,3	52,3	51,3	51,2	50,1	54,6	53,4	54,1
Temp. renewal air outlet - °C	7,5	8,1	8,1	7,8	7,8	7,5	8,7	8,4	8,5
FILTERS									
Efficiency - %	F5	F5	F5	F5	F5	F5	F5	F5	F5
Filter surface - m²	0,8	1,5	2,1	5,2	6,3	6,3	15,7	15,7	21,0

*Values refer to nominal air flow through filters and heat exchanger.

**Values refer to nominal air flow in the following conditions: T ext. air -5 °C (80% RH), Ambient T 20 °C (55% RH).

PRE - POST HEATING

Pre-electric heating

Model	Vort NRG 500 code 45150	Vort NRG 800 code 45151	Vort NRG 1200 code 45152	Vort NRG 2000 code 45153	Vort NRG 2500 code 45155	Vort NRG 3000 code 45156
DEH Electric heater	500 Ø 200	800 Ø 250	1500 Ø 315	1500 Ø 315	3500 Ø 350	3500 Ø 350
	code 24158	code 24159	code 24160	code 24160	code 24161	code 24161
Nominal power - kW	2	3	6	6	7,5	7,5
Voltage - V	230	230	400 (Y)	400 (Y)	400 (Δ)	400 (Δ)
No. phases	1	1	3	3	3	3
Power draw - A	8,7	13	8,7	8,7	10,8	10,8
Temp. air entering heat exchanger - °C	-2,1	-4,6	-1,1	-5,7	-6,7	-8,1

Values refer to nominal air flow with external air temperature = -15°C

Post-electric heating

Model	Vort NRG 500 code 45150	Vort NRG 800 code 45151	Vort NRG 1200 code 45152	Vort NRG 2000 code 45153	Vort NRG 2500 code 45155	Vort NRG 3000 code 45156
DEH Electric heater	500 Ø 200	800 Ø 250	1500 Ø 315	1500 Ø 315	3500 Ø 350	3500 Ø 350
	code 24158	code 24159	code 24160	code 24160	code 24161	code 24161
Nominal power - kW	2	3	6	6	7,5	7,5
Voltage - V	230	230	400 (Y)	400 (Y)	400 (Δ)	400 (Δ)
No. phases	1	1	3	3	3	3
Power draw - A	8,7	13	8,7	8,7	10,8	10,8
Temp. Air outlet - °C	20,9	18,4	21,9	17,3	16,3	14,9

Values refer to nominal air flow with air inlet temperature = +8 °C

VORT NRG

PRE - POST HEATING

Hydronic post heating

Model	Vort NRG code 45150	Vort NRG code 45151	Vort NRG code 45152	Vort NRG code 45153	Vort NRG code 45155	Vort NRG code 45156	Vort NRG code 45157	Vort NRG code 45158	Vort NRG code 45159
DHW hot water coil	500 Ø 200	800 Ø 250	1500 Ø 315	1500 Ø 315	3000 Ø 350	3000 Ø 350	5000 Ø 450	5000 Ø 450	5000 Ø 450
	code 24148	code 24149	code 24150	code 24150	code 24151	code 24151	code 24152	code 24152	code 24152
No. rows	1	1	1	1	1	1	1	1	1
Thermal output - kW	4,04	6,89	11,3	14,4	22,7	25,2	39,5	45,2	49,4
Temp. Air outlet - °C	35,0	32,8	35,0	31,1	34,2	32,2	36,4	34,0	32,5
Loss in load air side - Pa	9	14	9	17	11	15	8	11	14
Loss in load water side - kPa	8,1	25,9	13,2	20,9	22,8	27,8	17,2	22,3	26,4

Values refer to nominal air flow with air inlet temperature = +8 °C and water temperature = 80/70 °C

Hydronic post cooling

Model	Vort NRG code 45150	Vort NRG code 45151	Vort NRG code 45152	Vort NRG code 45153	Vort NRG code 45155	Vort NRG code 45156	Vort NRG code 45157	Vort NRG code 45158	Vort NRG code 45159
DCW cold water coil	500 Ø 200	800 Ø 250	1500 Ø 315	1500 Ø 315	3000 Ø 350	3000 Ø 350	5000 Ø 450	5000 Ø 450	5000 Ø 450
	code 24148	code 24149	code 24150	code 24150	code 24151	code 24151	code 24152	code 24152	code 24152
No. rows	4	4	4	4	4	4	4	4	4
Thermal output - kW	3,11	5,68	9,49	12,5	17,9	20,3	33,2	38,9	42,9
Temp. Air outlet - °C	19,3	19,9	18,5	20,1	19,6	20,3	17,7	18,7	19,3
Loss in load air side - Pa	34	52	51	104	65	91	39	56	72
Loss in load water side - kPa	8,8	34,0	39,7	66,1	13,3	16,8	24,7	33,0	39,6

Values referred to nominal air flow with air inlet temperature = +32 °C and water temperature = 7/12 °C

Thermal yield of hot water coil - DHW 500

Air (70% ur)			Water in/out 80/70 °C				Water in/out 80/60 °C				Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
430	-15	9	19,1	5,60	0,49	14,8	14,7	4,87	0,21	2,9	6,1	3,46	0,15	1,5	9,1	3,94	0,35	7,9
430	-10	9	22,3	5,20	0,46	13,0	18,1	4,52	0,20	2,6	9,7	3,16	0,14	1,4	12,3	3,59	0,32	6,6
430	-5	9	25,5	4,81	0,42	11,0	21,6	4,18	0,18	2,1	13,3	2,88	0,13	1,2	15,6	3,25	0,29	5,5
430	0	9	30,0	4,63	0,41	10,4	25,0	3,86	0,17	1,9	15,9	2,46	0,11	0,9	18,9	2,92	0,26	4,5
430	5	9	33,1	4,26	0,38	9,0	28,4	3,55	0,16	1,7	18,8	2,08	0,09	0,6	21,4	2,48	0,22	3,2
430	10	9	36,3	3,89	0,34	7,3	31,9	3,24	0,14	1,3	22,5	1,85	0,08	0,5	24,8	2,19	0,19	2,4

Thermal yield of hot water coil - DHW 800

Air (70% ur)			Water in/out 80/70 °C				Water in/out 80/60 °C				Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
800	-15	14	16,2	9,50	0,84	48,0	13,2	8,60	0,38	10,5	4,9	6,07	0,27	5,6	6,9	6,67	0,595	25,1
800	-10	14	19,5	8,83	0,78	41,6	16,7	7,99	0,35	8,9	8,6	5,56	0,24	4,5	10,3	6,07	0,53	20,4
800	-5	14	22,9	8,17	0,72	35,7	20,2	7,40	0,33	8,0	12,3	5,06	0,22	3,8	13,8	5,49	0,448	16,9
800	0	14	26,9	7,72	0,68	31,9	23,8	6,82	0,30	6,6	15,9	4,58	0,20	3,2	17,2	4,94	0,43	13,7
800	5	14	30,8	7,26	0,64	28,4	27,3	6,27	0,28	5,8	18,8	3,87	0,17	2,3	20,6	4,40	0,39	11,3
800	10	14	34,1	6,64	0,59	24,2	30,8	5,73	0,25	4,7	22,5	3,45	0,15	1,8	24,1	3,88	0,34	8,7

VORT NRG

PRE - POST HEATING

Thermal yield of hot water coil - DHW 1500

Air (70% ur)			Water in/out 80/70 °C				Water in/out 80/60 °C				Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
1200	-15	10	19,1	15,60	1,38	24,4	16,2	14,30	0,63	5,5	7,6	10,30	0,45	3,0	9,1	11,00	0,97	12,9
1200	-10	9	23,0	14,80	1,30	21,8	19,5	13,20	0,58	4,7	10,8	9,32	0,41	2,5	12,6	10,10	0,89	11,0
1200	-5	9	26,2	13,70	1,21	19,0	22,9	12,30	0,54	4,1	14,3	8,48	0,37	2,1	15,9	9,17	0,81	9,2
1200	0	9	30,0	12,90	1,14	17,0	23,3	11,30	0,50	3,5	17,3	7,47	0,33	1,7	19,1	8,24	0,72	7,3
1200	5	9	33,1	11,90	1,05	14,5	29,6	10,40	0,46	3,0	20,5	6,53	0,29	1,3	22,2	7,26	0,64	5,9
1200	10	9	36,5	11,00	0,97	12,4	33,0	0,51	0,42	2,5	23,7	5,66	0,25	1,0	25,5	6,40	0,56	4,5
1800	-15	18	13,9	19,90	1,75	38,6	11,0	17,80	0,78	8,3	3,8	12,90	0,57	4,7	5,2	13,90	1,22	20,0
1800	-10	18	17,8	18,70	1,65	34,4	14,6	16,60	0,73	7,3	7,5	11,80	0,52	3,9	9,0	12,80	1,12	17,0
1800	-5	18	21,6	17,50	1,54	30,2	18,2	15,30	0,67	6,2	11,0	10,50	0,46	3,1	12,6	11,60	1,02	14,2
1800	0	17	25,0	16,20	1,43	26,2	22,2	14,30	0,63	5,5	14,5	9,39	0,41	2,5	16,1	10,40	0,91	11,5
1800	5	17	29,0	15,20	1,34	23,1	25,5	13,00	0,57	4,5	17,9	8,17	0,36	2,0	19,5	9,16	0,80	9,0
1800	10	17	32,4	13,90	1,23	19,6	29,1	11,90	0,52	3,8	21,3	7,03	0,31	1,5	23,0	8,08	0,71	7,1

Thermal yield of hot water coil - DHW 3000

Air (70% ur)			Water in/out 80/70 °C				Water in/out 80/60 °C				Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
2500	-15	11	18,0	31,50	2,78	42,7	15,1	28,60	1,26	9,6	7,0	20,90	0,92	5,5	8,2	22,10	1,94	22,5
2500	-10	11	21,6	29,60	2,61	37,9	18,5	26,60	1,17	8,3	10,9	19,20	0,84	4,6	11,8	20,40	1,79	19,3
2500	-5	11	25,2	27,70	2,44	33,3	22,2	24,90	1,10	7,4	13,8	17,20	0,76	3,8	15,2	18,50	1,63	16,2
2500	0	11	28,8	25,80	2,27	29,1	25,6	23,00	1,01	6,3	17,1	15,40	0,68	3,1	18,5	16,60	1,46	13,1
2500	5	11	32,2	24,00	2,12	25,2	29,0	21,10	0,93	5,4	20,5	13,60	0,60	2,5	21,8	14,80	1,30	10,5
2500	10	11	35,6	22,00	1,94	21,5	32,4	19,30	0,85	4,5	23,6	11,70	0,51	1,8	25,1	13,00	1,14	8,2
3000	-15	15	15,6	35,00	3,09	52,4	12,8	31,80	1,40	11,7	5,4	23,30	1,02	6,7	6,6	24,70	2,17	27,8
3000	-10	15	19,4	32,90	2,90	46,3	16,4	29,60	1,30	10,2	8,9	21,10	0,93	5,6	10,2	22,60	1,99	23,6
3000	-5	15	22,9	30,70	2,71	40,7	20,1	27,50	1,21	8,9	12,4	19,10	0,84	4,6	13,8	20,60	1,81	19,7
3000	0	15	26,6	28,60	2,52	35,4	23,8	25,60	1,13	7,8	15,8	17,00	0,75	3,7	17,2	18,50	1,63	16,2
3000	5	15	30,2	26,60	2,35	31,0	27,3	23,50	1,03	6,5	19,2	15,00	0,66	2,9	20,6	16,50	1,45	12,9
3000	10	15	33,8	24,60	2,17	26,7	30,6	21,40	0,94	5,5	22,5	12,90	0,57	2,2	23,9	14,40	1,27	10,1

Thermal yield of hot water coil - DHW 5000

Air (70% ur)			Water in/out 80/70 °C				Water in/out 80/60 °C				Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
4000	-15	8	20,9	54,70	4,82	31,9	17,7	49,80	2,19	7,3	9,0	36,50	1,60	4,2	10,3	38,60	3,39	17,2
4000	-10	8	24,5	51,50	4,54	28,5	21,1	46,50	2,05	6,4	12,3	33,30	1,46	3,5	13,6	35,30	3,10	14,5
4000	-5	8	27,9	48,20	4,25	25,1	24,5	43,20	1,90	5,6	15,4	29,90	1,31	2,9	16,9	32,10	2,82	12,1
4000	0	8	31,3	44,90	3,96	22,0	27,8	39,90	1,76	4,8	18,6	26,80	1,18	2,4	20,1	28,90	2,54	10,0
4000	5	8	34,4	41,50	3,66	18,9	31,1	36,70	1,61	4,5	21,9	23,60	1,04	1,9	23,3	25,70	2,26	8,0
4000	10	8	37,8	38,30	3,38	16,3	34,2	33,40	1,47	3,4	24,7	20,30	0,89	1,4	26,3	22,60	1,99	6,3
5000	-15	12	17,7	62,40	5,50	40,9	14,7	56,60	2,49	9,3	6,8	41,60	1,83	5,4	8,1	44,00	3,87	22,1
5000	-10	12	21,5	58,80	5,18	36,6	18,3	52,90	2,33	8,2	10,2	37,80	1,66	4,5	11,6	40,30	3,54	18,7
5000	-5	12	25,0	54,90	4,84	31,1	21,9	49,30	2,17	7,1	13,7	34,20	1,50	3,7	15,0	36,70	3,22	15,6
5000	0	11	28,4	51,10	4,51	28,1	25,3	45,40	2,00	6,1	17,0	30,50	1,34	3,0	18,4	33,00	2,90	12,8
5000	5	11	32,0	47,40	4,18	24,4	28,7	41,80	1,84	5,2	20,3	26,80	1,18	2,4	21,7	29,30	2,57	10,2
5000	10	11	35,3	43,60	3,84	20,8	32,1	38,10	1,68	4,4	23,4	23,10	1,01	1,8	24,9	25,70	2,26	8,0
5800	-15	15	15,8	68,10	6,00	48,3	12,8	61,50	2,71	10,9	5,4	45,20	1,99	6,3	6,7	48,10	4,23	26,1
5800	-10	15	19,5	64,00	5,64	42,9	16,5	57,50	2,53	9,5	9,0	41,20	1,81	5,3	10,2	43,90	3,86	22,0
5800	-5	15	23,1	59,80	5,27	37,8	20,2	53,60	2,36	8,4	12,5	37,10	1,63	4,4	13,8	39,80	3,50	18,3
5800	0	15	26,7	55,60	4,90	32,8	23,8	49,50	2,18	7,2	15,9	33,20	1,46	3,5	17,2	35,80	3,15	15,0
5800	5	14	30,3	51,70	4,56	28,7	27,3	45,50	2,00	6,1	19,3	29,20	1,28	2,8	20,6	31,90	2,80	12,0
5800	10	14	33,8	47,60	4,20	24,6	30,7	41,40	1,82	5,1	22,6	25,20	1,11	2,1	24,0	28,00	2,46	9,4

VORT NRG

POST COOLING-HEATING

Thermal yield of cold water coil - DCW 500

Air (50% ur)			Water in/out 7/12 °C				Air (70% ur)			Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
430	25	23	15,4	1,61	0,28	2,6	430	-10	21	31,0	6,59	0,29	2,5	32,1	6,77	0,59	9,7
430	30	31	18,1	2,71	0,46	6,7	430	0	20	34,7	5,36	0,24	1,7	36,1	5,57	0,49	6,8
430	35	37	21,0	3,78	0,65	12,9	430	10	20	37,7	4,11	0,18	1,0	39,2	4,33	0,38	4,2

Thermal yield of cold water coil - DCW 800

Air (50% ur)			Water in/out 7/12 °C				Air (70% ur)			Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
800	25	40	15,8	3,26	0,56	12,1	800	-10	33	29,6	11,90	0,52	9,3	30,1	12,00	1,05	35,4
800	30	49	18,7	5,02	0,86	27,1	800	0	32	33,8	9,70	0,43	6,5	34,4	9,88	0,87	24,7
800	35	57	21,7	6,75	1,16	47,6	800	10	31	37,1	7,49	0,33	3,9	37,9	7,71	0,68	15,5

Thermal yield of cold water coil - DCW 1500

Air (50% ur)			Water in/out 7/12 °C				Air (70% ur)			Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
1200	25	38	14,8	5,43	0,93	13,9	1200	-10	31	33,5	19,50	0,86	10,5	33,9	19,70	1,73	39,3
1200	30	48	17,4	8,31	1,43	31,0	1200	0	30	36,9	15,90	0,70	7,1	37,4	16,10	1,41	26,7
1200	35	56	20,1	11,40	1,96	56,0	1200	10	29	39,9	12,40	0,54	4,4	40,5	12,60	1,11	17,0
1800	25	80	16,0	7,26	1,25	24,1	1800	-10	65	28,8	26,10	1,15	18,2	29,4	26,50	2,33	69,0
1800	30	98	18,9	11,00	1,89	52,5	1800	0	63	32,8	21,50	0,93	12,2	33,5	21,70	1,91	47,3
1800	35	114	22,1	14,90	2,56	92,7	1800	10	61	36,6	16,50	0,72	7,5	37,4	17,00	1,49	29,6

Thermal yield of cold water coil - DCW 3000

Air (50% ur)			Water in/out 7/12 °C				Air (70% ur)			Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
2500	25	46	15,6	9,60	1,65	4,2	2500	-5	41	30,5	37,80	1,66	3,7	31,5	38,80	3,41	14,2
2500	30	60	18,4	15,50	2,66	10,2	2500	0	40	34,0	30,50	1,34	2,5	35,2	31,60	2,78	9,7
2500	35	72	21,3	21,60	3,71	19,0	2500	10	38	37,1	23,40	1,03	1,5	38,7	24,70	2,17	6,1
3000	25	65	16,1	11,00	1,89	5,4	3000	-5	57	28,3	42,90	1,88	4,7	29,5	44,30	3,89	18,2
3000	30	85	19,0	17,50	3,00	12,7	3000	0	56	32,2	34,70	1,52	3,1	33,5	36,10	3,17	12,4
3000	35	100	22,1	24,40	4,19	23,8	3000	10	54	35,8	26,70	1,17	1,9	37,2	28,20	2,48	7,8

Thermal yield of cold water coil - DCW 5000

Air (50% ur)			Water in/out 7/12 °C				Air (70% ur)			Water in/out 60/40 °C				Water in/out 55/45 °C			
Q	Ti a	ΔP a	Tu a	Pot.	Q w	ΔP w	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w	Tu a	Pot.	Q w	ΔP w
m³/h	°C	Pa	°C	kW	m³/h	kPa	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
4000	25	29	14,4	18,80	3,23	8,7	4000	-10	23	35,4	67,80	2,98	6,4	35,7	68,30	6,00	23,4
4000	30	37	16,8	29,00	4,98	19,3	4000	0	23	38,5	55,30	2,43	4,4	38,9	55,80	4,90	16,1
4000	35	43	19,4	39,80	6,83	34,5	4000	10	22	41,2	43,00	1,89	2,8	41,7	43,70	3,84	10,2
5000	25	42	15,0	22,20	3,81	11,8	5000	-10	34	30,8	79,90	3,51	8,7	33,3	80,90	7,11	32,1
5000	30	53	17,6	33,90	5,82	25,7	5000	0	33	36,3	65,10	2,86	5,9	36,8	66,10	5,81	22,0
5000	35	62	20,4	46,50	7,98	46,0	5000	10	32	39,3	50,60	2,22	3,7	40,0	51,80	4,55	14,0
5800	25	55	15,4	24,70	4,24	14,3	5800	-10	45	31,1	89,00	3,91	10,6	31,6	90,20	7,92	39,2
5800	30	68	18,2	37,60	6,45	31,0	5800	0	44	34,8	72,50	3,18	7,2	35,4	73,70	6,47	26,9
5800	35	79	21,1	51,30	8,80	55,1	5800	10	42	38,1	56,30	2,47	4,5	38,9	57,80	5,08	17,2

VORT NRG

HEAT-RECOVERY PERFORMANCE

Thermal yield of NRG heat recovery units

Model	Air flow	Indoor		Outdoor		Treated air	Efficiency
	m³/h	°C	U.R. %	°C	U.R. %	°C	%
Vort NRG 500 code 45150	430	20	55	-10	80	5,6	51,9
				-5	80	7,5	50,1
				0	70	9,4	47,2
				5	60	11,7	44,7
Vort NRG 800 code 45151	800	20	55	-10	80	6,2	54,1
				-5	80	8,1	52,3
				0	70	9,9	49,4
				5	60	12,0	46,8
Vort NRG 1200 code 45152	1200	20	55	-10	80	5,9	53,0
				-5	80	7,8	51,2
				0	70	9,6	48,2
				5	60	11,9	45,7
Vort NRG 2000 code 45154	1800	20	55	-10	80	5,9	52,9
				-5	80	7,8	51,3
				0	70	9,7	48,3
				5	60	11,9	45,8
Vort NRG 2500 code 45155	2500	20	55	-10	80	5,9	53,0
				-5	80	7,8	51,2
				0	70	9,6	48,2
				5	60	11,9	45,7
Vort NRG 3000 code 45156	3000	20	55	-10	80	5,6	51,9
				-5	80	7,5	50,1
				0	70	9,4	47,2
				5	60	11,7	44,7
Vort NRG 4000 code 45157	4000	20	55	-10	80	7,0	56,7
				-5	80	8,7	54,6
				0	70	10,4	51,9
				5	60	12,4	49,3
Vort NRG 5000 code 45158	5000	20	55	-10	80	6,6	55,3
				-5	80	8,4	53,4
				0	70	10,1	50,6
				5	60	12,2	47,9
Vort NRG 6000 code 45159	5800	20	55	-10	80	6,8	56,1
				-5	80	8,5	54,1
				0	70	10,3	51,4
				5	60	12,3	48,9

VORT NRG

THERMAL YIELD

Thermal yield - Vort NRG 500 code 45150

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
100	20	55	-10	80	7,6	58,5
			0	70	10,7	53,7
			10	50	15,0	49,9
	26	55	30	50	28,0	49,9
			34	50	30,0	49,9
300	20	55	-10	80	6,0	53,5
			0	70	9,8	48,8
			10	50	14,6	45,9
	26	55	30	50	28,2	45,9
			34	50	30,4	45,9
430	20	55	-10	80	5,6	51,9
			0	70	9,4	47,2
			10	50	14,4	44,1
	26	55	30	50	28,2	44,1
			34	50	30,5	44,1

Thermal yield - Vort NRG 800 code 45151

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
300	20	55	-10	80	7,6	58,6
			0	70	10,7	53,7
			10	50	15,0	49,9
	26	55	30	50	28,0	49,9
			34	50	30,0	49,9
550	20	55	-10	80	6,7	55,7
			0	70	10,2	51,1
			10	50	14,8	47,5
	26	55	30	50	28,1	47,5
			34	50	30,2	47,5
800	20	55	-10	80	6,2	54,1
			0	70	9,9	49,4
			10	50	14,6	46,0
	26	55	30	50	28,2	46,0
			34	50	30,3	46,0

Thermal yield - Vort NRG 1200 code 45152

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
400	20	55	-10	80	7,4	57,9
			0	70	10,6	53,1
			10	50	14,9	49,4
	26	55	30	50	28,0	49,4
			34	50	30,0	49,4
900	20	55	-10	80	6,3	54,2
			0	70	11,3	49,5
			10	50	14,6	46,2
	26	55	30	50	28,1	46,2
			34	50	30,3	46,2
1200	20	55	-10	80	5,9	53,0
			0	70	9,6	48,2
			10	50	14,5	45,0
	26	55	30	50	28,1	45,0
			34	50	30,4	45,0

N.B. The air flows considered in the tables below are examples of the heat exchange performance of the unit: the intervals studied are an indication of performance at logical operating points.

VORT NRG

THERMAL YIELD

Thermal yield - Vort NRG 2000 code 45154

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
1000	20	55	-10	80	6,8	56,1
			0	70	10,3	51,4
			10	50	14,8	47,9
	26	55	30	50	28,0	47,9
			34	50	30,2	47,9
1500	20	55	-10	80	6,2	54,0
			0	70	9,9	49,3
			10	50	14,6	45,9
	26	55	30	50	28,1	45,9
			34	50	30,3	45,9
1800	20	55	-10	80	5,9	52,9
			0	70	9,7	48,3
			10	50	14,5	45,1
	26	55	30	50	28,1	45,1
			34	50	30,4	45,1

Thermal yield - Vort NRG 2500 code 45155

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
1500	20	55	-10	80	6,8	55,9
			0	70	10,2	51,2
			10	50	14,8	47,7
	26	55	30	50	28,0	47,7
			34	50	30,2	47,7
2000	20	55	-10	80	6,3	54,3
			0	70	9,9	49,6
			10	50	14,6	46,2
	26	55	30	50	28,1	46,2
			34	50	30,3	46,2
2500	20	55	-10	80	5,9	53,0
			0	70	9,6	48,2
			10	50	14,5	45,0
	26	55	30	50	28,1	45,0
			34	50	30,4	45,0

Thermal yield - Vort NRG 3000 code 45156

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
2000	20	55	-10	80	6,3	54,3
			0	70	9,9	49,6
			10	50	14,6	46,2
	26	55	30	50	28,1	46,2
			34	50	30,3	46,2
2500	20	55	-10	80	5,9	53,0
			0	70	9,6	48,2
			10	50	14,5	45,0
	26	55	30	50	28,1	45,0
			34	50	30,4	45,0
3000	20	55	-10	80	5,6	51,9
			0	70	9,4	47,2
			10	50	14,4	44,1
	26	55	30	50	28,1	44,1
			34	50	30,5	44,1

N.B. The air flows considered in the tables below are examples of the heat exchange performance of the unit: the intervals studied are an indication of performance at logical operating points.

VORT NRG

THERMAL YIELD

Thermal yield - Vort NRG 4000 code 45157

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
2000	20	55	-10	80	8,3	60,9
			0	70	11,2	55,9
			10	50	15,2	51,9
	26	55	30	50	28,0	51,9
			34	50	31,1	51,9
3000	20	55	-10	80	7,5	58,4
			0	70	10,7	53,6
			10	50	15,0	49,8
	26	55	30	50	28,0	49,8
			34	50	31,0	49,8
4000	20	55	-10	80	7,0	56,9
			0	70	10,4	51,9
			10	50	14,8	48,2
	26	55	30	50	28,0	48,2
			34	50	30,9	48,2

Thermal yield - Vort NRG 5000 code 45158

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
3000	20	55	-10	80	7,5	58,4
			0	70	10,7	53,6
			10	50	15,0	49,8
	26	55	30	50	28,0	49,8
			34	50	32,0	49,8
4000	20	55	-10	80	7,0	56,7
			0	70	10,4	51,9
			10	50	14,8	48,3
	26	55	30	50	28,1	48,3
			34	50	31,9	48,3
5000	20	55	-10	80	6,6	55,3
			0	70	10,1	50,6
			10	50	14,7	47,1
	26	55	30	50	28,1	47,1
			34	50	31,9	47,2

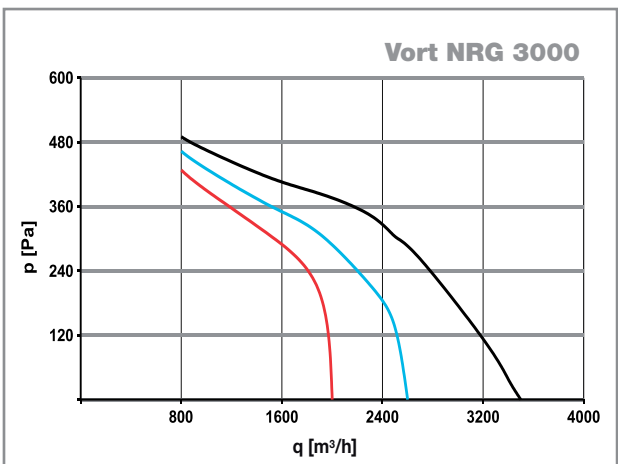
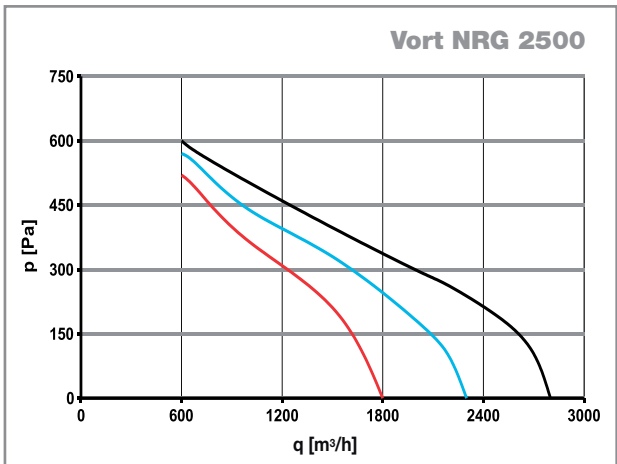
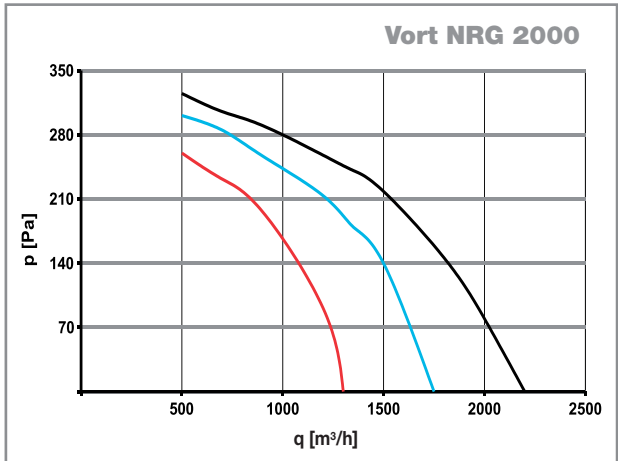
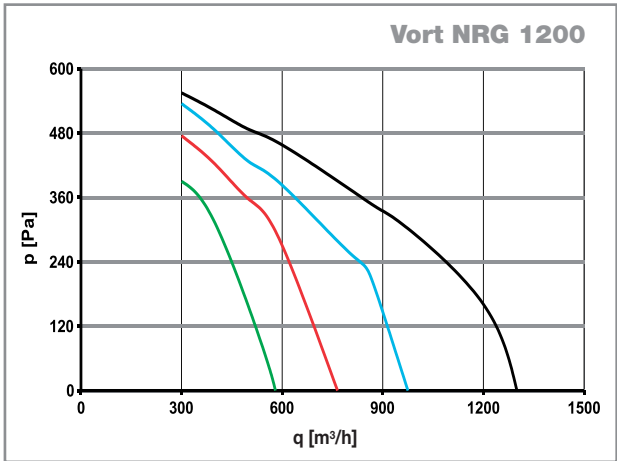
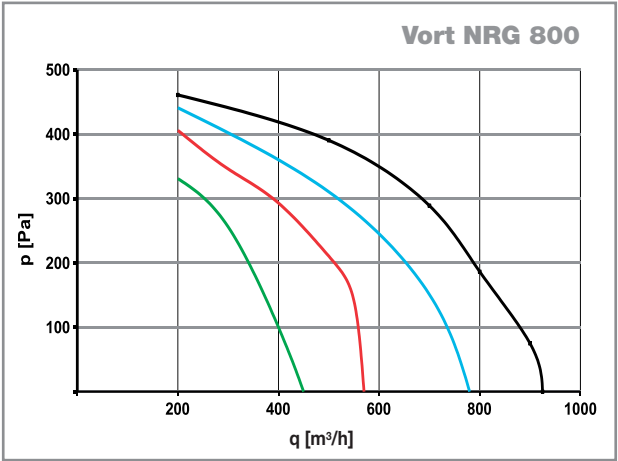
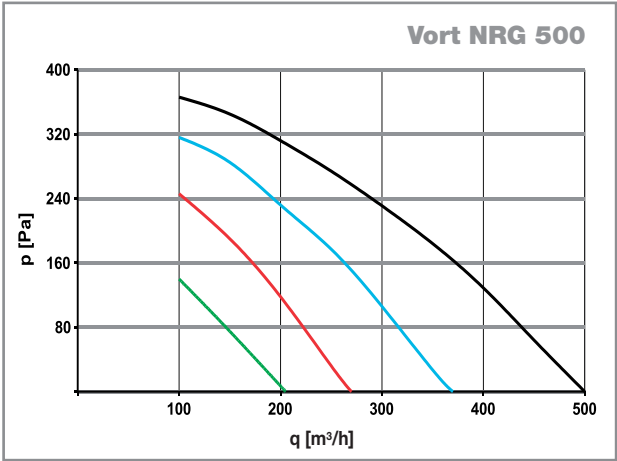
Thermal yield - Vort NRG 6000 code 45159

Air flow	Indoor		Outdoor		Treated air	Efficiency
m³/h	°C	U.R.%	°C	U.R.%	°C	%
4000	20	55	-10	80	7,5	58,4
			0	70	10,7	53,6
			10	50	15,0	49,8
	26	55	30	50	28,0	49,8
			34	50	30,0	49,8
5000	20	55	-10	80	7,1	57,0
			0	70	10,5	52,3
			10	50	14,9	48,6
	26	55	30	50	28,1	48,6
			34	50	30,1	48,6
5800	20	55	-10	80	6,8	56,1
			0	70	10,3	51,4
			10	50	14,8	47,9
	26	55	30	50	28,1	47,9
			34	50	30,2	47,9

N.B. The air flows considered in the tables below are examples of the heat exchange performance of the unit: the intervals studied are an indication of performance at logical operating points.

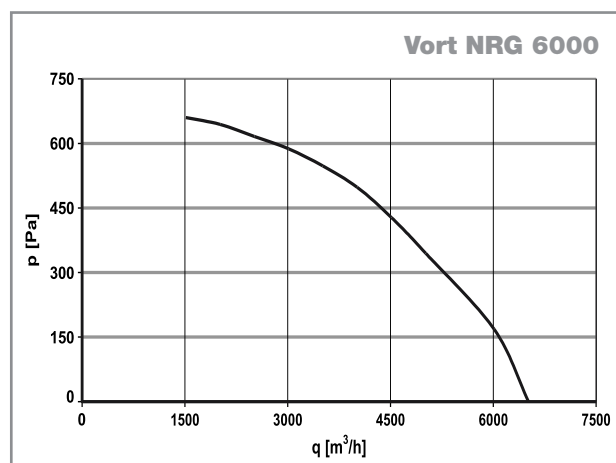
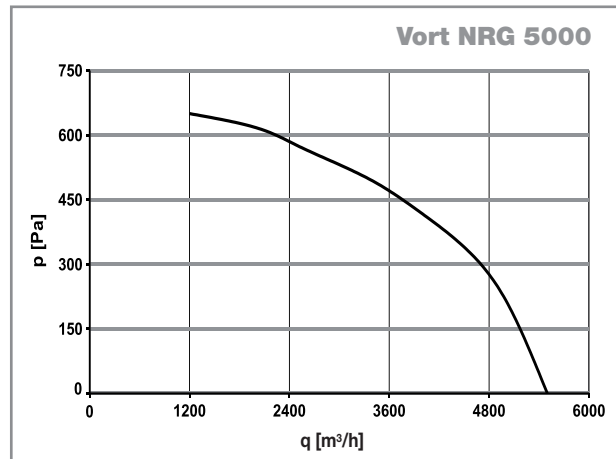
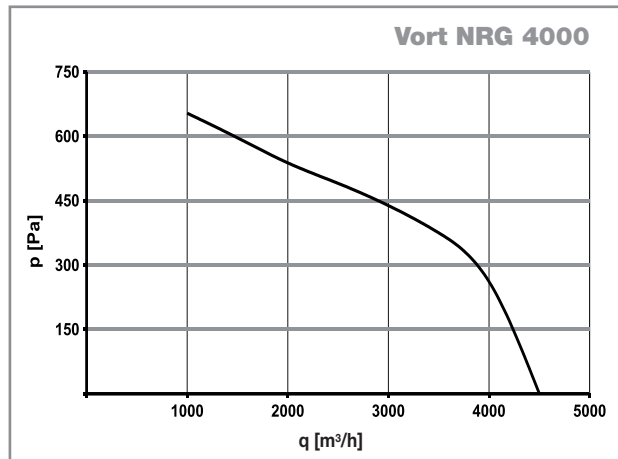
VORT NRG

PERFORMANCE CURVES

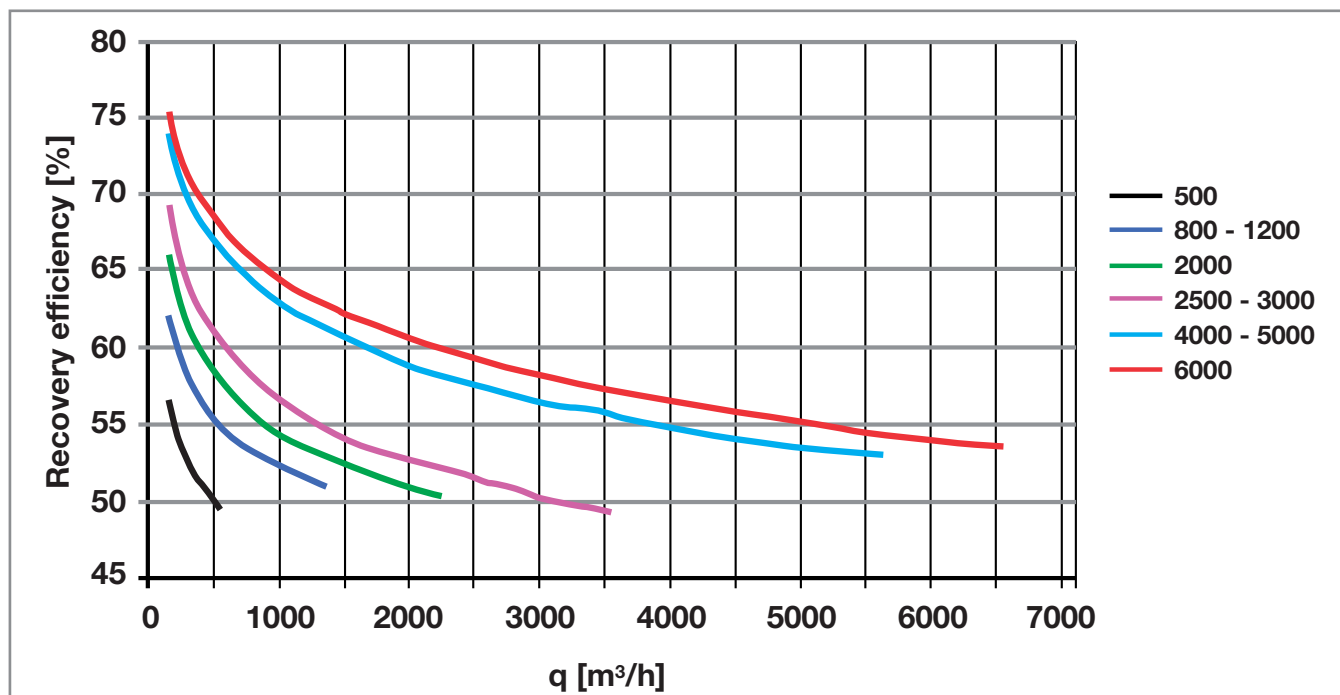


VORT NRG

PERFORMANCE CURVES



HEAT RECOVERY EFFICIENCY



VORT NRG

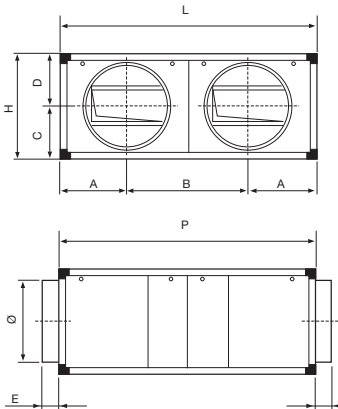
SOUND PRESSURE LEVELS

Model	Room sound pressure at 1 mt dB(A)				In-duct sound pressure at 1 mt dB(A)			
Speed	1°	2°	3°	4°	1°	2°	3°	4°
Vort NRG 500 - code 45150	26	31	40	42	32	40	50	53
Vort NRG 800 - code 45151	37	42	46	49	46	53	58	60
Vort NRG 1200 - code 45152	34	40	47	53	41	49	57	64
Vort NRG 2000 - code 45154	47	48	49	-	58	60	62	-
Vort NRG 2500 - code 45155	48	49	51	-	59	61	63	-
Vort NRG 3000 - code 45156	50	51	53	-	60	60	64	-
Vort NRG 4000 - code 45157	46	-	-	-	56	-	-	-
Vort NRG 5000 - code 45158	54	-	-	-	64	-	-	-
Vort NRG 6000 - code 45159	56	-	-	-	66	-	-	-

DIMENSIONS

Sizes and Weights

Model	Code	L	P	H	A	B	C	D	E	Ø	kg
Vort NRG 500	45150	630	630	324,5	160	310	148	176,5	50	200	33
Vort NRG 800	45151	800	800	346	210	380	181	165	50	250	45
Vort NRG 1200	45152	1000	1000	396	260	480	198	198	50	315	67
Vort NRG 2000	45154	1100	1100	516	275	550	300	216	50	315	105
Vort NRG 2500	45155	1240	1240	536	282	676	319	217	50	355	131
Vort NRG 3000	45156	1240	1240	536	282	676	319	217	50	355	135
Vort NRG 4000	45157	1400	1550	660	330	740	330	330	50	450	200
Vort NRG 5000	45158	1400	1550	660	330	740	330	330	50	450	200
Vort NRG 6000	45159	1400	1550	860	330	740	430	430	50	450	225



CONFIGURATIONS

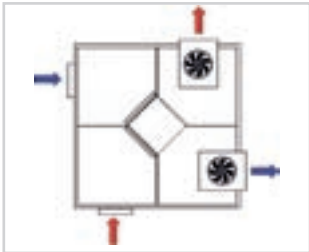
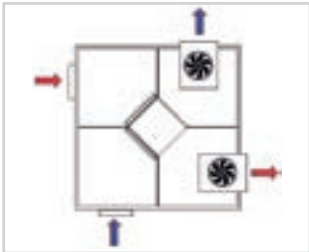
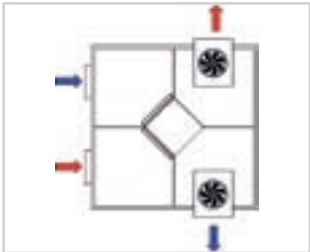
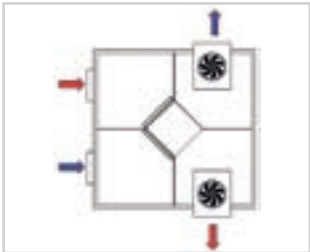
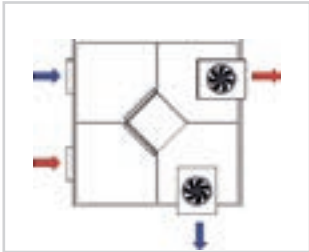
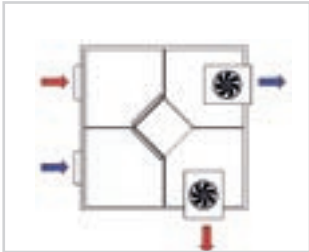
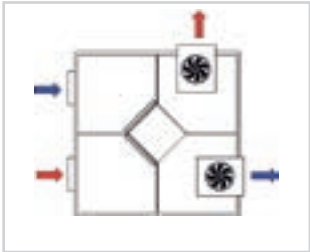
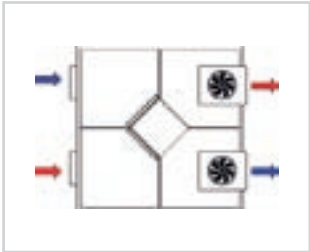
The following configurations can be easily achieved on site



Renewal air



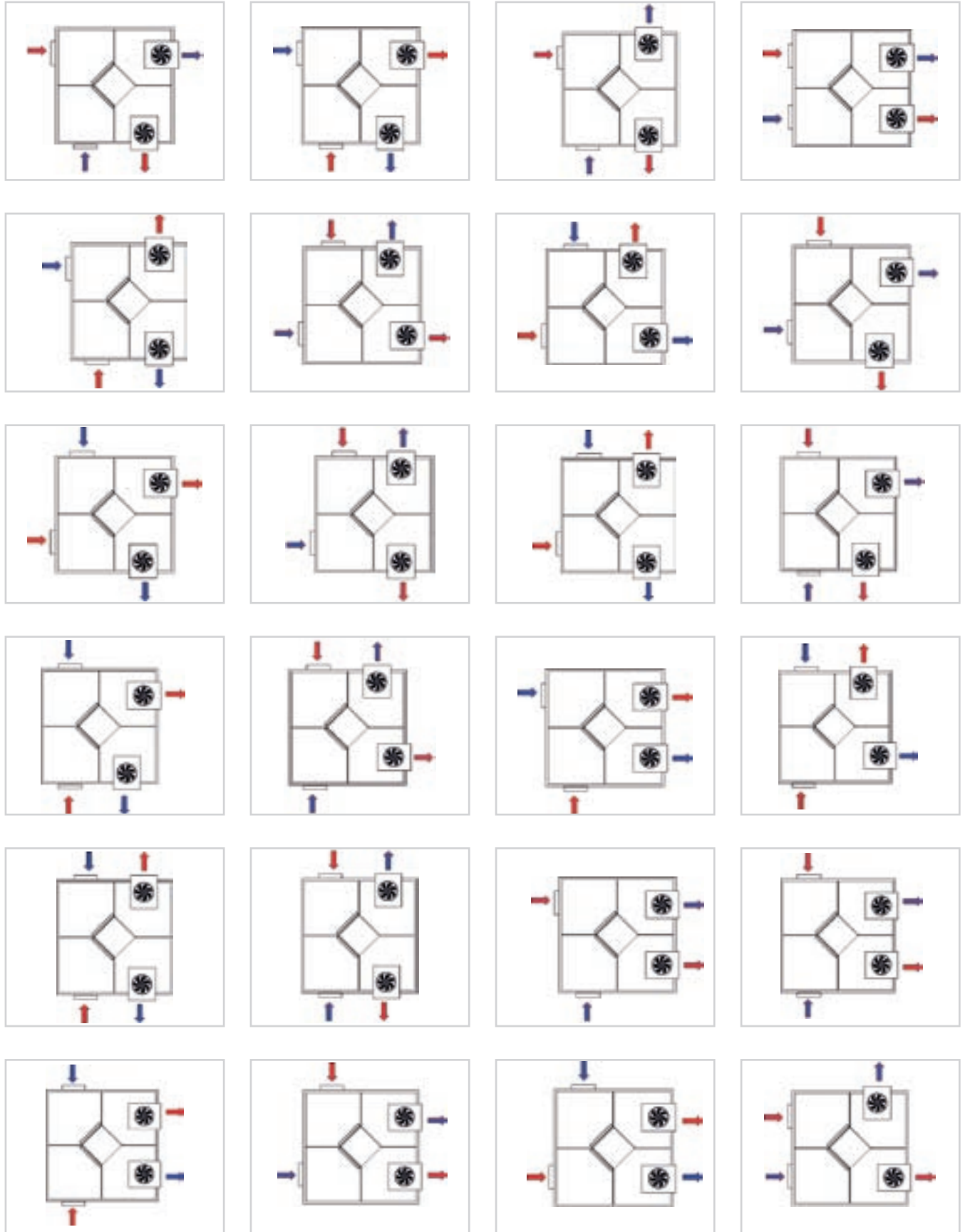
Exhaust air



VORT NRG

CONFIGURATIONS

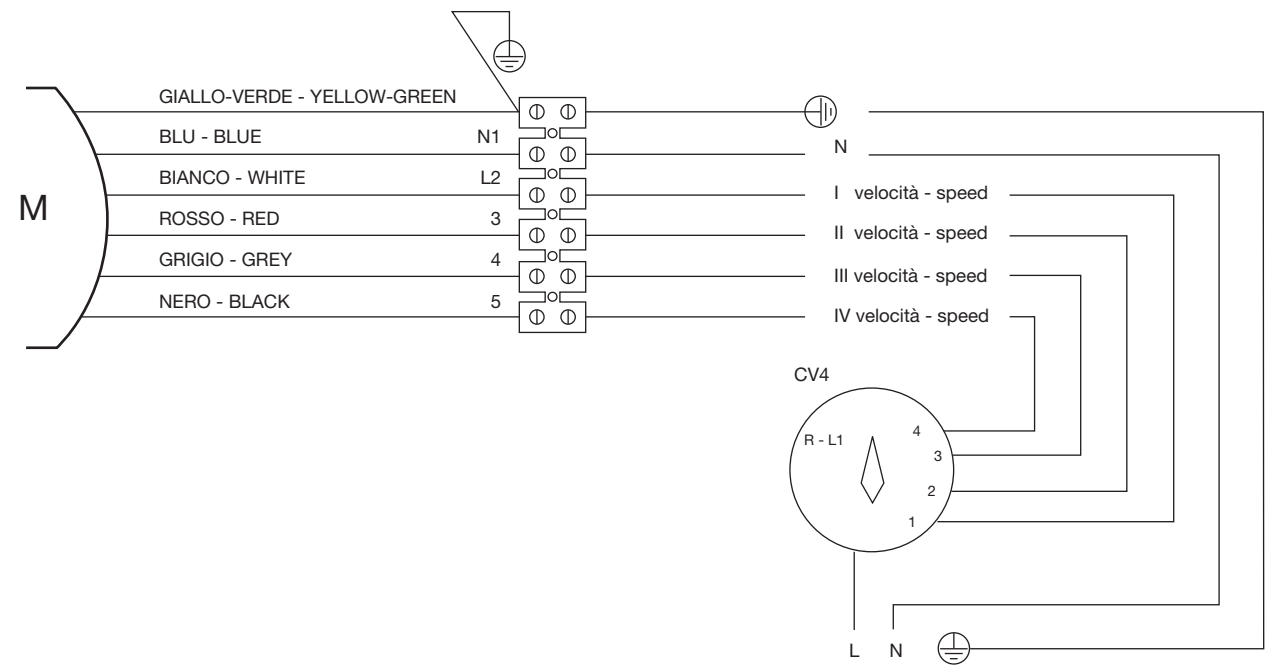
The following configurations can be easily achieved on site



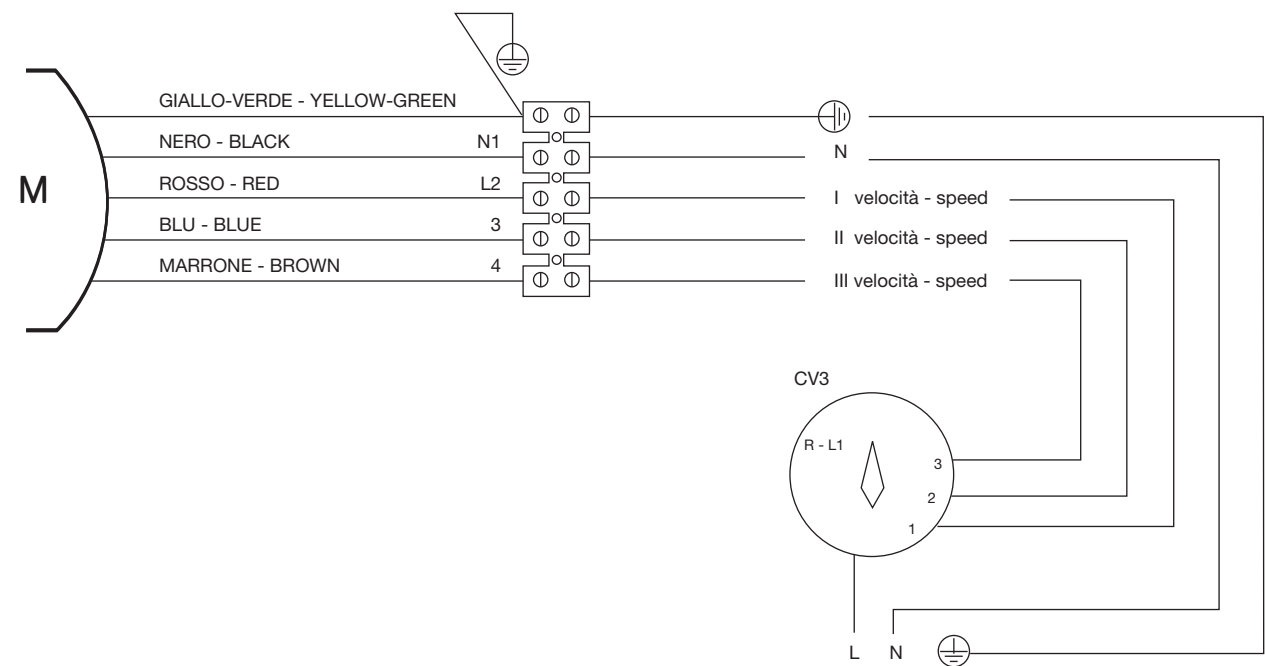
VORT NRG

WIRING DIAGRAMS

NRG 500 (code 45150) - **NRG 800** (code 45151) - **NRG 1200** (code 45152)



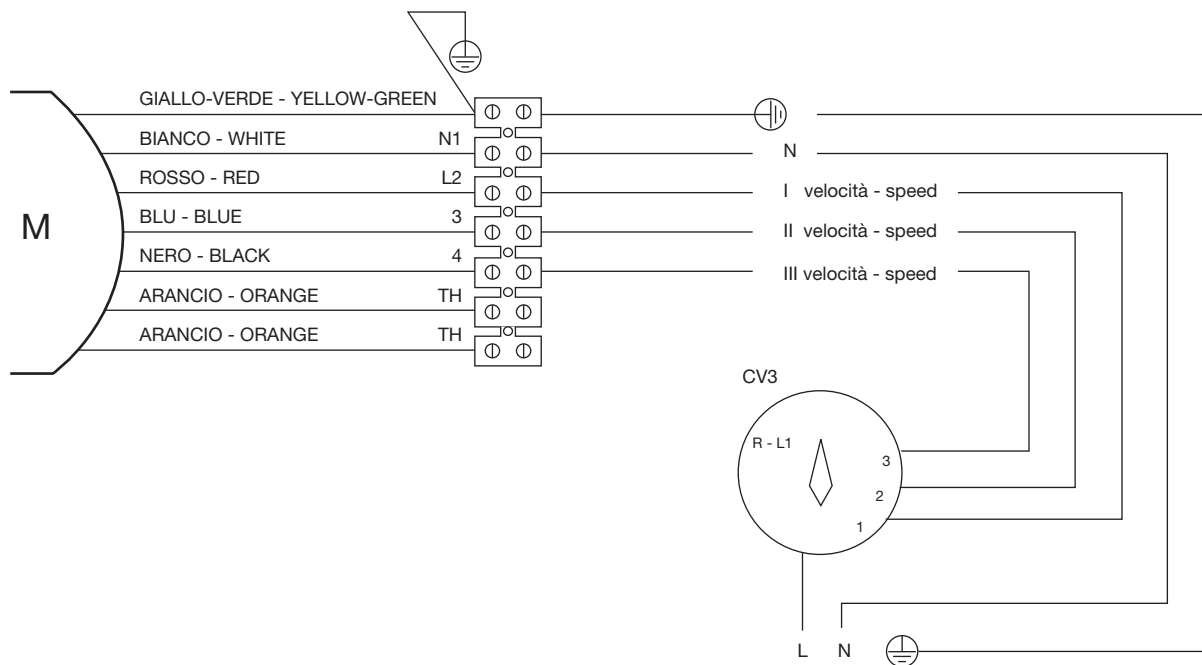
NRG 2000 (code 45154) - **NRG 2500** (code 45155)



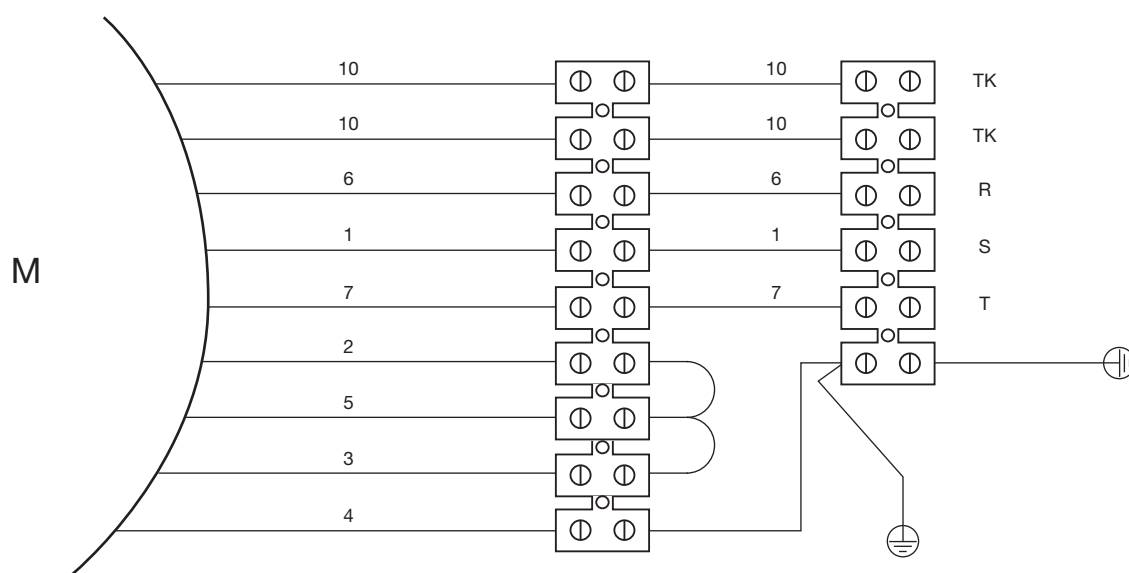
VORT NRG

WIRING DIAGRAMS

NRG 3000 (code 45156)



NRG 4000 (code 45157) - NRG 5000 (code 45158) - NRG 6000 (code 45159)



Codice Colori - Colour code

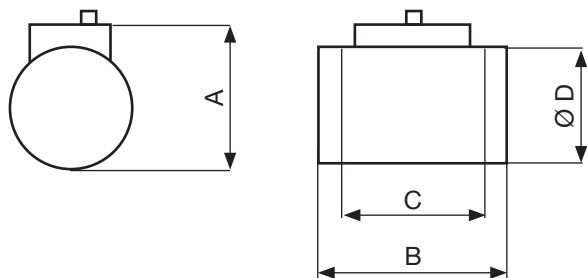
- 1 = Nero - Black
- 2 = Blu - Blue
- 3 = Rosso - Red
- 4 = Gialloverde - Yellowgreen
- 5 = Grigio - Grey
- 6 = Bianco - White
- 7 = Marrone - Brown
- 10 = Viola - Violet
- TK = Termal cut-out

VORT NRG

SYSTEM ACCESSORIES

Pre-post electric heater

Circular duct batteries with automatic-reset control thermostat and manual-reset safety thermostat. A differential flow meter or pressure switch is recommended to increase the operating safety level. Command and control from external probes (thermostat / differential probe).



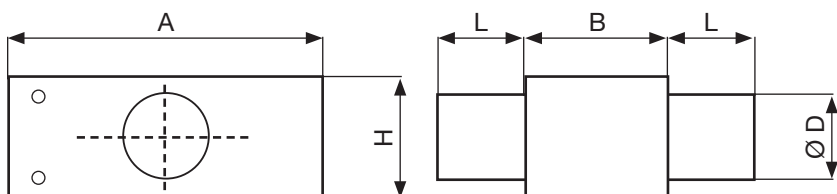
Sizes and Weights

Model	Code	kW	Ø D	A	B	C
NRG DEH 500	24158	2 single-phase	200	300	380	300
NRG DEH 800	24159	3 single-phase	250	350	380	300
NRG DEH 1200 - 2000	24160	6 three-phase	315	415	380	260
NRG DEH 2500 - 3000	24161	7,5 three-phase	355	550	460	340

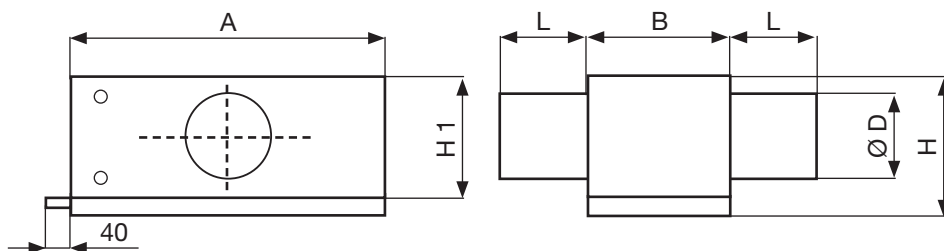
HYDRONIC POST HEATING COOLING

Circular duct water coil with copper and aluminium tube bundle.
The post-cooling units can also be used for post-heating (see Heat Output Tables).

Post-heating (NRG DHW)



Post-cooling (NRG DCW)



Sizes and Weights

Model	Code	Ø D	Ø WATER IN-OUT	Ø CONDENSATION DRAIN	A	B	H	H1	L
NRG DHW 500	24148	200	12 mm	-	420	400	320	-	150
NRG DHW 800	24149	250	12 mm	-	490	400	350	-	150
NRG DHW 1200 - 2000	24150	315	1/2"	-	650	400	400	-	150
NRG DHW 2500 - 3000	24151	355	3/4"	-	900	400	530	-	150
NRG DHW 4000 - 5000 - 6000	24152	450	1"	-	1180	400	740	-	150
NRG DCW 500	24153	200	1/2"	1"	425	400	320	275	150
NRG DCW 800	24154	250	3/4"	1"	520	400	350	305	150
NRG DCW 1200 - 2000	24155	315	1-1/4"	1"	655	400	405	365	150
NRG DCW 2500 - 3000	24156	355	1-1/2"	1"	900	400	540	490	150
NRG DCW 4000 - 5000 - 6000	24157	450	1-1/2"	1"	1250	400	790	730	150

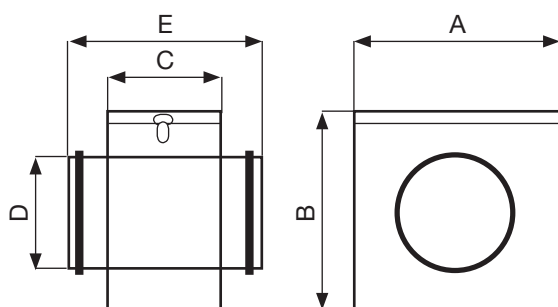
VORT NRG

SYSTEM ACCESSORIES

F7 Filter Boxes

Circular channel filter boxes, complete with F7 filter.

Designed to protect non-smokers, also facilitate maintenance of heat recovery units: removing integrated F5 filters and installing F7 filter boxes allows you direct access to the device whilst being able to transfer the filter units to locations that are easier to access.



Sizes and Weights

Model	Code	Ø D	A	B	C	E
FB 500	24139	200	235	290	300	396
FB 800	24140	250	405	320	300	396
FB 1200	24141	315	465	375	600	696
FB 2000	24142	315	555	490	600	696
FB 2500 - 3000	24143	355	625	520	700	796
FB 4000 - 5000	24145	450	705	610	900	996
FB 6000	24147	450	705	810	900	996

ACCESSORIES

	Accessory	Code	Model
	C3VM3 (comm. 3V single-phase 3A)	12949	45150 - 45151 - 45152
	C3VM16 (comm. 3V single-phase 16A)	22916	45154 - 45155 - 45156
	C4VM16 (comm. 4V single-phase 16A)	14021	45150 - 45151 - 45152
	RVT 16 E (electronic speed variator - three-phase 16A)	14020	45157 - 45158 - 45159
	NRG DHW 500 - Ø 200 mm duct hot water coil	24148	45150
	NRG DHW 800 - Ø 200 mm duct hot water coil	24149	45151
	NRG DHW 1200 - 2000 - Ø 315 mm duct hot water coil	24150	45152 - 45154
	NRG DHW 2500 - 3000 - Ø 350 mm duct hot water coil	24151	45155 - 45156
	NRG DHW 4000 - 5000 - 6000 - Ø 450 mm duct hot water coil	24152	45157 - 45158 - 45159
	NRG DCW 500 - Ø 200 mm duct hot water coil	24153	45150
	NRG DCW 800 - Ø 250 mm duct hot water coil	24154	45151
	NRG DCW 1200 - 2000 - Ø 315 mm duct cooled water coil	24155	45152 - 45154
	NRG DEH 1200 - 2000 - Ø 315 mm duct cooled water coil	24156	45155 - 45156
	NRG DEH 4000 - 5000 - 6000 - Ø 450 mm duct cooled water coil	24157	45157 - 45158 - 45159
	NRG DEH 500 - Ø 200 mm duct electric heater (2kW - single phase)	24158	45150
	NRG DEH 800 - Ø 250 mm duct electric heater (3kW - single phase)	24159	45151
	NRG DEH 1200 - 2000 - Ø 315 mm duct electric heater (6kW - single-phase)	24160	45152 - 45154
	NRG DEH 2500 - 3000 - Ø 350 mm duct electric heater (7.5kW - single-phase)	24161	45155 - 45156
	FB 500 - Ø 200 mm duct filter box (F7)	24139	45150
	FB 800 - Ø 250 mm duct filter box (F7)	24140	45151
	FB 1200 - Ø 315 mm duct filter box (F7)	24141	45152
	FB 2000 - Ø 315 mm duct filter box (F7)	24142	45154
	FB 2000 - 2500 - Ø 350 mm duct filter box (F7)	24143	45155 - 45156
	FB 4000 - 5000 - Ø 450 mm duct filter box (F7)	24145	45157 - 45158
	FB 6000 - Ø 450 mm duct filter box (F7)	24147	45159
	NRG ABC 500 - Expulsion sleeve with insect screen	22296	45150
	NRG ABC 800 - Expulsion sleeve with insect screen	22297	45151
	NRG ABC 1200 - 2000 - Expulsion sleeve with insect screen	22298	45152 - 45154
	NRG ABC 2500 - 3000 - Expulsion sleeve with insect screen	22299	45155 - 45156
	NRG ABC 4000 - 5000 - 6000 - Expulsion sleeve with insect screen	22749	45157 - 45158 - 45159
	NRG RRC 500 - Rain cover	24130	45150
	NRG RRC 800 - Rain cover	24131	45151
	NRG RRC 1200 - Rain cover	24132	45152
	NRG RRC 2000 - Rain cover	24133	45154
	NRG RRC 2500 - 3000 - Rain cover	24134	45155 - 45156
	NRG RRC 4000 - 5000 - 6000 - Rain cover	24136	45157 - 45158 - 45159

Code 5.170.084.754

03/10

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