VN-M_HE
AIR-TO-AIR HEAT EXCHANGER

Toshiba's VN model uses exhaust air to pre-condition the incoming air, thus reducing the cooling or heating load on the system. This allows the overall capacity size of the system to be reduced.

AIR FLOW

150m³/h > **2000**m³/h

SOUND PRESSURE LEVEL

20dB(A)

Energy savings

- Recovers air suction heat and humidity up to 75% and transfers them to the outdoor fresh air.
- The unit has the ability to automatically change operation mode of the air flow between heat exchanger mode (energy recovery) to normal standard ventilation mode (free cooling), based on the outdoor temperatures.
- Free cooling - Provides fresh outdoor cool air to reduce the indoor air temperature, when the outdoor temperature is lower than the indoor air conditioned temperature.

Multi-application

- 9 models available with air flow ranges from 150 to 2000 m³/h.
- Air balance volume rate can be varied to suit the usage environment and location.
- Horizontal or upside down installations.

Fully integrated

- Air conditioners and heat exchangers are controlled with the same main bus system (TCC-LINK).

OUTDOOR UNITS

Side Blow
& MiNi SMMS-e

SMMS-e

SHRM-e

LOCAL CONTROLS

NRC-01HE
RBC-AMT32E

AIR-TO-AIR HEAT EXCHANGER Performance and physical data

Model			VN-M150HE	VN-M250HE	VN-M350HE	VN-M500HE	VN-M650HE	VN-M800HE	VN-M1000HE1	VN-M1500HE 1	VN-M2000HE1
Air volume	(EH/H/L)	m³/h	150/150/110	250/250/155	350/350/210	500/500/390	650/650/520	800/800/700	1000/1000/700	1500 /1500 /1200	2000 /2000 /1400
Temp. exchange efficiency	(EH/H/L)	%	81.5/81.5/83	78/78/81.5	74.5/74.5/79.5	76.5/76.5/78	75/75/76.5	76.5/76.5/77.5	73.5/73.5/77	76.5 /76.5 /79	73.5 /73.5 /77.5
Enthalpy exchange efficiency (Heating)	(EH/H/L)	%	74.5/74.5/76	70/70/74	65/65/71.5	72/72/73.5	69.5/69.5/71.5	71/71/71.5	68.5/68.5/71.5	71 /71 /73.5	68.5 /68.5 /72
Enthalpy exchange efficiency (Cooling)	(EH/H/L)	%	69.5/69.5/71	65/65/69	60.5/60.5/67	64.5/64.5/66.5	61.5/61.5/64	64/64/65.5	60.5/60.5/64.5	64 /64 /67	60.5 /60.5 /65.5
Sound pressure level* **	EH	dB(A)	26-28	29.5-30	34-35	32.5-34	34-36	37-38.5	40.5	41.5	42.5
Sound pressure level* **	H	dB(A)	24-25.5	25-27	30-32	29.5-31	33-34	35.5-37	39.5	40	41.5
Sound pressure level*	L	dB(A)	20-22	21-22	27-29	26-29	31-32.5	33.5-35	34.5	36	36.5
Power consumption**	EH	(W)	68-78	123-138	165-182	214-238	262-290	360-383	396	590	792
Power consumption**	H	(W)	59-67	99-111	135-145	176-192	240-258	339-353	374	500	748
Power consumption**	L	(W)	42-47	52-59	82-88	128-142	178-191	286-300	220	310	440
External static pressure**	EH	Pa	82-102	80-98	114-125	134-150	91-107	142-158	105	140	105
External static pressure**	H	Pa	52-78	34-65	56-83	69-99	58-82	102-132	80	110	80
External static pressure**	L	Pa	47-64	28-40	65-94	62-92	61-96	76-112	70	80	70
Dimensions (HxWxD)		mm	290x900x900	290x900x900	290x900x900	350x1140x1140	350x1140x1140	400x1189x1189	400x1189x1189	810x1189x1189	810x1189x1189
Weight		kg	36	36	38	53	53	70	58	130	130
Duct diameter	indoor side	mm	100	150	150	200	200	250	250	250	250
Power supply		V-ph-Hz	220-240 - 1 - 50								
Operating range	Around unit		-10 / 40°C . RH ≤80%								
	Outdoor Air (OA)		-15 / 43°C . RH ≤80%								
	Return Air (RA)		5 / 40°C . RH ≤80%								

* Sound pressure level is measured 1.5m below the center of the unit. ** Sound pressure level, power consumption and external static pressure values at 220 - 240 V.