TRANE

TVR 6G DC INVERTER

SALES BROCHURE

50Hz

Ingersoll Rand

UNIQUE **INNOVATION**

The World's largest single outdoor unit capacity of 32HP.

Compact combination achieving up to 96HP, the largest in the VRF industry.

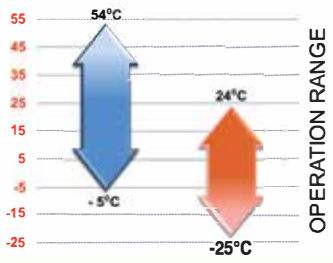
32HP x 3
MAX COMBINATION CAPACITY
96HP / 270Kw / 78 TR
THE LARGEST IN HVAC INDUSTRY

Powerful wider range of 13 single module meeting any application design.

8 - 12 HP (Single fan) | 14 - 16 HP (Single fan) | 18 - 22 HP (Dual fan) | 24 - 32 HP (Dual fan)

Compact product footprint, savings overall installation cost.

Operate in a wide ambient temperature range.

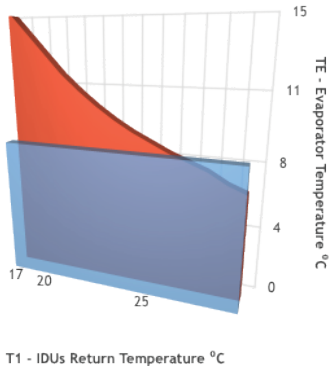


Highest number of indoor units connected to a single module

KEY TECHNOLOGIES

Energy Management System

- Increase system efficiency without compromising comfort.
- Rapid cooling or heating automatic adjustments meeting load requirements.
- Enable capacity set up in the event of a power shortage.



High Efficient Compressor

Increase part load efficiency in all operation range with wider inverter frequency.

Enhanced Vapor Injection Compressor

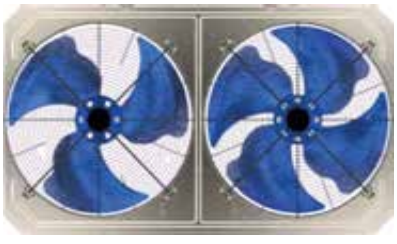
Improves compressor efficiency by maintaining suction temperature In cold weather (below 7º) condition, EVI will improve heating performance up to 20%

Secondary Sub- Cooling loop

Plate Heat exchanger plays a major role in boosting compression during mid-season and/or part load

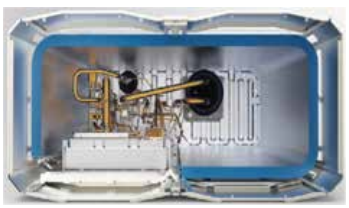
Efficient Fan design with pressure control

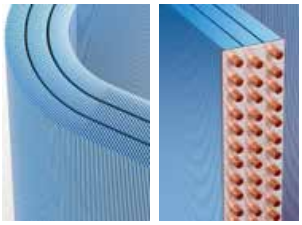
Optimizing building load by modulating outdoor fan speed



Optimized Heat Exchanger

Innovative outdoor heat exchanger by U & G design

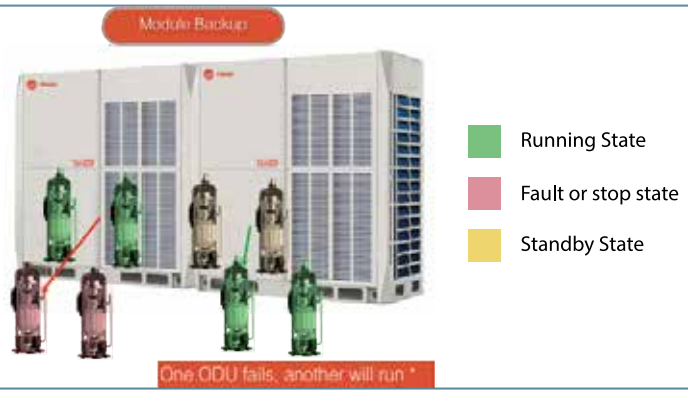




FEATURES & **OPTIONS**

Reliability

- Equalizing system life span of each outdoor unit.
- Double backup operation.
- Protect the electronic panels from overheating at high ambient conditions.



Comfort

- Various silent operation mode achieved by advanced technology.
- Multiple operation modes matching customer expectations.

Ease of Service

- Auto dust/snow cleaning option.
- Auto detection of Refrigerant temperature & pressure.

SPECIFICATIONS
8-14 hp

Table 2-1.1: 8-14HP specifications

HP			8HP	10HP	12HP	14HP
Model name			**4TVVT086BD060AA**	**4TVVT096BD060AA**	**4TVVT115BD060AA**	**4TVVT140BD060AA**
Power supply		V/Ph/Hz	380-415/3/50			
Cooling - 35°C[1]	Capacity	kW	25.20	28.13	33.70	41.02
		BTU/h	86000	96000	115000	140000
	Power input	kW	5.8	6.7	8.3	10.1
	EER/QCC	(BTU/h) / W	15.00	14.00	13.00	14.00
Cooling - Eurovent[2]	Capacity	kW	25.2	28.0	33.5	40.0
		BTU/h	86000	95000	115000	137000
	Power input	kW	5.3	6.3	8.7	9.9
	EER	(BTU/h) / W	16.21	15.10	13.22	13.87
		W / W	4.75	4.45	3.85	4.05
Cooling - 46°C[3]	Capacity	kW	24.59	27.88	30.93	37.30
		BTU/h	76000	84000	96000	115000
	Power input	kW	6.6	7.8	9.0	10.5
	EER/ESMA	(BTU/h) / W	11.00	11.00	11.00	11.00
Heating[4]	Capacity	kW	25.2	28.0	33.5	40.0
		BTU/h	86000	95000	115000	137000
	Power input	kW	4.6	5.2	6.6	8.5
	COP	(BTU/h) / W	18.77	18.32	17.51	16.10
		W / W	5.50	5.40	5.10	4.70
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		13	16	20	23
Compressor	Type		DC inverter			
	Quantity		1			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1			
Refrigerant	Type		R410A			
	Factory charge	kg	11			13
Pipe connections[5]	Liquid pipe	mm	Φ12.7		Φ15.9	Φ15.9
	Gas pipe	mm	Φ25.4		Φ28.6	Φ31.8
Sound pressure level[6]		dB(A)	58		60	
Net dimensions (W×H×D)		mm	990×1635×790			1340×1635×850
Packed dimensions (W×H×D)		mm	1090×1805×860			1405×1805×910
Net weight		kg	227			277
Gross weight		kg	242			304
Ambient temp. operation range		°C	-5 to 54 (cooling); -25 to 24 (heating)			

Notes:
(1) Indoor temperature: 26.7°CDB, 19.4°CWB; outdoor temperature: 35°CDB; AHRI 1230:2010.
(2) Indoor temperature: 27°CDB, 19°CWB; outdoor temperature: 35°CDB; based on Eurovent.
(3) Indoor temperature: 29°CDB, 19°CWB; outdoor temperature: 46°CDB; ISO 15042:2011;.
(4) Indoor temperature: 20°CDB; outdoor temperature: 7°CDB, 6°CWB; based on Euroventa.
(5) Diameters given are those of the unit's stop valves.
(6) Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

SPECIFICATIONS
16-22 hp

Table 2-1.2: 16-22HP specifications

HP			16HP	18HP	20HP	22HP
Model name			**4TVVT155BD060AA**	**4TVVT172BD060AA**	**4TVVT192BD060AA**	**4TVVT211BD060AA**
Power supply		V/Ph/Hz	380-415/3/50			
Cooling - 35°C[1]	Capacity	kW	45.42	50.40	56.26	61.82
		BTU/h	155000	172000	192000	211000
	Power input	kW	11.6	13.2	16.0	17.9
	EER/QCC	(BTU/h) / W	13.00	13.00	12.00	12.00
Cooling - Eurovent[2]	Capacity	kW	45.0	50.0	56.0	61.5
		BTU/h	154000	170000	190000	210000
	Power input	kW	12.0	12.5	15.1	18.4
	EER	(BTUh) / W	12.83	13.60	12.55	11.44
		W / W	3.75	4.00	3.70	3.35
Cooling - 46°C[3]	Capacity	kW	41.85	45.23	48.21	50.73
		BTU/h	127000	142000	150000	156000
	Power input	kW	11.8	14.0	15.6	17.1
	EER/ESMA	(BTU/h) / W	11.00	10.00	9.00	9.00
Heating[4]	Capacity	kW	45.0	50.0	56.0	61.5
		BTU/h	154000	170000	190000	210000
	Power input	kW	9.8	10.6	12.7	15.0
	COP	(BTU/h) / W	15.74	15.98	14.93	14.00
		W / W	4.60	4.70	4.40	4.10
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity			
	Maximum quantity		26	29	33	36
Compressor	Type		DC inverter			
	Quantity		1	2		
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		1	2		
Refrigerant	Type		R410A			
	Factory charge	kg	13	17		
Pipe connections[5]	Liquid pipe	mm	Φ15.9	Φ19.1		
	Gas pipe	mm	Φ31.8			
Sound pressure level[6]		dB(A)	61	62	63	
Net dimensions (W×H×D)		mm	1340×1635×850	1340×1635×825		
Packed dimensions (W×H×D)		mm	1405×1805×910	1405×1805×910		
Net weight		kg	277	348		
Gross weight		kg	304	368		
Ambient temp. operation range		°C	-5 to 54 (cooling); -25 to 24 (heating)			

Notes:
(1) Indoor temperature: 26.7°CDB, 19.4°CWB; outdoor temperature: 35°CDB; AHRI 1230:2010.
(2) Indoor temperature: 27°CDB, 19°CWB; outdoor temperature: 35°CDB; based on Eurovent.
(3) Indoor temperature: 29°CDB, 19°CWB; outdoor temperature: 46°CDB; ISO 15042:2011.
(4) Indoor temperature: 20°CDB; outdoor temperature: 7°CDB, 6°CWB; based on Eurovent.
(5) Diameters given are those of the unit's stop valves.
(6) Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

SPECIFICATIONS
24-32 hp

Table 2-1.3: 24-32HP specifications

HP			24HP	26HP	28HP	30HP	32HP
Model name			4TVVT228BD060AA	4TVVT251BD060AA	4TVVT270BD060AA	4TVVT288BD060AA	4TVVT305BD060AA
Power supply		V/Ph/Hz	380-415/3/50				
Cooling - 35°C[1]	Capacity	kW	66.80	73.54	79.11	84.38	89.50
		BTU/h	228000	251000	270000	288000	305000
	Power input	kW	19.1	22.3	24.2	26.1	27.3
	EER/QCC	(BTU/h) / W	12.00	11.00	11.00	11.00	11.00
Cooling - Eurovent[2]	Capacity	kW	67.0	73.0	78.5	85.0	90.0
		BTU/h	228000	250000	268000	290000	308000
	Power input	kW	18.1	20.9	24.2	27.4	31.0
	EER	(BTU/h) / W	12.59	11.96	11.10	10.58	9.92
		W / W	3.70	3.49	3.25	3.10	2.90
Cooling - 46°C[3]	Capacity	kW	61.17	65.75	71.21	68.70	66.00
		BTU/h	190000	205000	215000	216000	225000
	Power input	kW	19.3	21.9	23.9	24.7	25.4
	EER/ESMA	(BTU/h) / W	9.00	9.00	9.00	9.00	9.00
Heating[4]	Capacity	kW	67.0	73.0	78.5	85.0	90.0
		BTU/h	228000	250000	268000	290000	308000
	Power input	kW	14.9	17.6	20.7	23.0	25.7
	COP	(BTU/h) / W	15.31	14.20	12.97	12.62	11.98
		W / W	4.50	4.15	3.80	3.70	3.50
Connected indoor unit	Total capacity		50-130% of outdoor unit capacity				
	Maximum quantity		39	43	46	50	53
Compressor	Type		DC inverter				
	Quantity		2				
Fan	Type		Propeller				
	Motor type		DC				
	Quantity		2				
Refrigerant	Type		R410A				
	Factory charge	kg	22			25	
Pipe connections[5]	Liquid pipe	mm	Φ19.1	Φ22.2			
	Gas pipe	mm	Φ31.8			Φ38.1	
Sound pressure level[6]		dB(A)	64				
Net dimensions (W×H×D)		mm	1730 × 1830 × 850				
Packed dimensions (W×H×D)		mm	1800×2000×910				
Net weight		kg	430			475	
Gross weight		kg	453			507	
Ambient temp. operation range		°C	-5 to 54 (cooling); -25 to 24 (heating)				

Notes:
(1) Indoor temperature: 26.7°CDB, 19.4°CWB; outdoor temperature: 35°CDB; AHRI 1230:2010.
(2) Indoor temperature: 27°CDB, 19°CWB; outdoor temperature: 35°CDB; based on Eurovent.
(3) Indoor temperature: 29°CDB, 19°CWB; outdoor temperature: 46°CDB; ISO 15042:2011.
(4) Indoor temperature: 20°CDB; outdoor temperature: 7°CDB, 6°CWB; based on Eurovent.
(5) Diameters given are those of the unit's stop valves.
(6) Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

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