

Digital and Super Digital Inverters

Toshiba Digital and Super Digital Inverter systems deliver exceptional operating savings in extremely compact units. With state-of-the-art technologies, flexible controls and flexible installation they bring comfort and convenience.

When the inverter becomes digital

The technology of the Digital Inverter control module ensures optimised reproduction of the supply sine wave at the desired frequency, in order to reduce inefficient harmonics that inverters normally emit. With this innovative control method, the Toshiba Digital Inverter brings state-of-the-art inverter technology to the commercial sector, offering considerable advantages in terms of capacity, energy savings and optimised control.

The Super Digital Inverter provides the best efficiency part load conditions performance in the industry in cooling and heating mode. In most applications, these systems can reduce the Seasonal Energy Consumption. The variable capacity management of the compressor allows the Digital and Super Digital Inverter to maintain room temperature control and to ensure minimum energy wastage.

With the continuous improvement of the inverter control system, Toshiba offers vector control for its DC hybrid inverter, which enhances system efficiency and reduces noise levels. High-tech elements include improved coils, high precision components and higher refrigerant compression thanks to redesigned compression channels. Super Digital and Digital Inverter systems are capable of satisfying applications that require cooling at low operating conditions down to -15°C , while powerful heating capacities are possible at -20°C outdoor temperature. The enhanced Eco-driving DC twin-rotary compressor delivers stable performance with extremely low rotor friction, making it ideal for noise-sensitive areas.



Indoor Units



Outdoor Units



The condensing coil

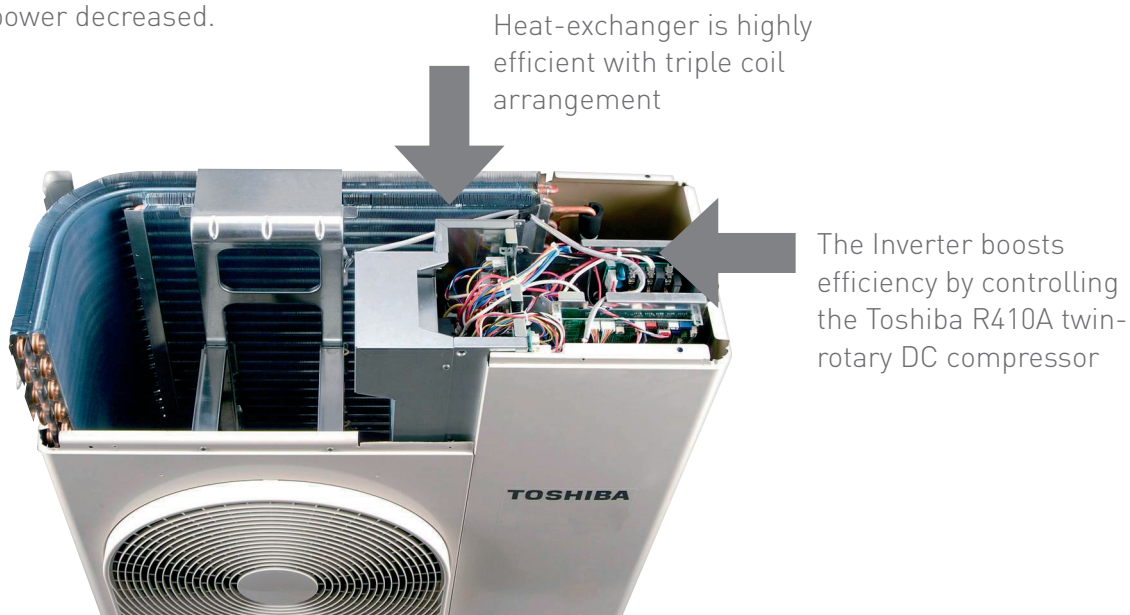
The condensing coil of the Super Digital Inverter uses two different tubes to obtain the most efficient heat transfer. The phase changes from vapour to liquid and the diameter is adapted according to the refrigerant state. The large capacity Digital Inverter outdoor unit condensing coils ensures maximum capacity and efficiency in the smallest footprint by using triple coil heat exchanger.

A powerful breeze

In the vapour phase a large diameter pipe is used to reduce pressure losses. The fan in the outdoor unit has been designed to deliver higher static pressure and a reduction in sound levels to offset a more compact heat exchanger. New fan blades have been designed to reduce turbulence with “anti-eddy” protuberances and a reverse curved profile. In this way, despite a more compact coil, airflow has been increased and sound power decreased.

The ideal solution to replace old units, reusing existing refrigerant pipework

Thanks to the filter positioned in the refrigerant circuit, the SDI & DI systems, equipped with R410A refrigerant, can use pipework designed for old R22 or R407C refrigerant. High-mesh filters and stable lubricant oil against chloride compounds, combined with high-tech Toshiba control, are key to make SDI and DI units suitable for reuse existing piping. This solution offers significant benefits in terms of performances, acoustic comfort and efficiency.



4 Way Cassette System Digital Inverter & Super Digital Inverter

- Two louvre shape options
- Built-in high-lift drain pump
- Self-cleaning function
- Individual setting of louvre position
- Wireless remote control and optional wired remote controller and timer
- R22 & R407c replacement technology



4 Way Cassette System

The Toshiba 4 way cassette offers the ultimate airflow and combines improved technology and optimum design to provide uniform air distribution and total comfort. It is the ideal solution for applications where a ceiling void is present and easy access is required for maintenance and filter cleaning.



Digital Inverter

Model Reference Indoor Outdoor		RAV-SM564UT-E RAV-SM563AT-E	RAV-SM804UT-E RAV-SM803AT-E	RAV-SM1104UT-E RAV-SM1103AT-E1	RAV-SM1404UT-E RAV-SM1403AT-E1	RAV-SM1604UT-E RAV-SM1603AT-E
Nominal Cooling Capacity	kW	5.3	6.7	10.0	12.1	14.0
Nominal Heating Capacity	kW	5.6	8.0	11.2	14.0	16.0
UK Total Cooling	kW	5.30	6.70	10.00	12.00	14.00
UK Total Heating	kW	4.90	6.30	9.40	11.30	13.15
UK Sensible Cooling	kW	4.26	5.25	6.67	8.15	11.1
EER/COP		3.21/3.89	3.21/3.62	3.22/3.82	3.21/3.68	3.12/3.61
SEER/SCOP Value		5.89/4.51	5.63/4.02	5.58/3.54	5.36/3.45	5.48/4.05
Indoor Retail Price		£760	£906	£983	£1,063	£1,074
Outdoor Retail Price		£835	£1,215	£1,540	£1,685	£2,110
System Retail Price		£1,647	£2,173	£2,575	£2,800	£3,236



Super Digital Inverter

Model Reference Indoor Outdoor		RAV-SM564UT-E RAV-SP564AT-E	RAV-SM804UT-E RAV-SP804AT-E	RAV-SM1104UT-E RAV-SP1104AT-E*	RAV-SM1404UT-E RAV-SP1404AT-E*
Nominal Cooling Capacity	kW	5.3	7.1	10.0	12.5
Nominal Heating Capacity	kW	5.6	8.0	11.2	14.0
UK Total Cooling	kW	5.24	7.12	10.06	12.57
UK Total Heating	kW	4.46	6.38	8.93	11.16
UK Sensible Cooling	kW	4.26	5.25	6.67	8.15
EER/COP		3.61/4.63	3.82/4.19	4.52/4.79	3.96/4.36
SEER/SCOP Value		6.17/4.58	6.39/4.19	6.60/4.28	5.06/4.43
Indoor Retail Price		£760	£906	£983	£1,063
Outdoor Retail Price		£1,015	£1,510	£1,900	£2,100
System Retail Price		£1,827	£2,468	£2,935	£3,215

The price for the indoor cassette includes the fascia panel RBC-U31PG(W)-E (retail price £153)

The system price includes a standard remote controller RBC-AMT32E (retail price £52)

Comprehensive list of controls on pages 98 to 109

Accessories	Description	Additional Retail Price
RBC-AMT32E	Standard Remote Controller	Included
RBC-AMS41E	Remote Control c/w 7 Day Timer	£18
RBC-AMS51E-ES	Lite Vision Remote Controller	£58
*3ph Outdoor Model No.		Retail Price
RAV-SP1104AT8-E		£2,275
RAV-SP1404AT8-E		£2,350
RAV-SP1604AT8-E		£2,700

*See page 39 for specification data

Technical Specification

Digital Inverter

Indoor Outdoor		RAV-SM564UT-E RAV-SM563AT-E	RAV-SM804UT-E RAV-SM803AT-E	RAV-SM1104UT-E RAV-SM1103AT-E1	RAV-SM1404UT-E RAV-SM1403AT-E1	RAV-SM1604UT-E RAV-SM1603AT-E
Nominal Cooling Capacity	kW	5.3	6.7	10	12	14
UK Conditions - Cooling Capacity	kW	5.44	7.46	10.87	12.61	15.53
UK Conditions - Sensible Cooling	kW	4.26	5.25	6.67	8.15	11.1
Nominal Heating Capacity	kW	5.6	8	11.2	14	16
UK Conditions - Heating Capacity	kW	4.69	6.72	9.68	11.92	13.64
Annual Power Consumption	kWh	825	1045	1550	1870	2245
Energy Label Cool/Heat		A+/A+	A+/A+	A/A	A/A	B
Power Supply To & Phase		Outdoor /1	Outdoor /1	Outdoor /1	Outdoor /1	Outdoor /1
Interconnecting Cable		3 core & E	3 core & E	3 core & E	3 core & E	3 core & E
System Start Current	A	1	1	1	1	1
Running Current (max)	A	7.89 [12.3]	10.11 [14.3]	14.4 [20.5]	17.81 [20.5]	21.48 [29.7]
Indoor Units		RAV-SM564UT-E	RAV-SM804UT-E	RAV-SM1104UT-E	RAV-SM1404UT-E	RAV-SM1604UT-E
Airflow High/Low	M3/h	1050/780	1230/810	2010/1170	2100/1230	2130/1260
Airflow High/Low	l/s	292/217	341/226	558/325	583/342	592/350
Unit Dimensions (HxWxD)	mm	256x840x840	256x840x840	319x840x840	319x840x840	319x840x840
Sound Pressure H/L	dB(A)	32/27	35/28	45/33	44/34	45/36
Weight	kg	20	20	24	24	24
Outdoor Units		RAV-SM563AT-E	RAV-SM803AT-E	RAV-SM1103AT-E1	RAV-SM1403AT-E1	RAV-SM1603AT-E
Suggested Fuse Size	A	16	16	20	25	32
Pipe Sizes	mm/in	12.7 (1/2") - 6.4 (1/4")	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")
Refrigerant Pre-Charge/Length	m	20	20	30	30	30
Additional Refrigerant	g/m	20	40	40	40	40
Max Pipe Length/Height	m	30/30	30/30	50/30	50/30	50/30
Sound Pressure Cool/Heat	dB(A)	46/48	48/50	53/54	54/54	51/53
Unit Dimensions (HxWxD)	mm	550x780x290	550x780x290	795x900x320	795x900x320	1340x900x320
Weight	kg	38	44	77	77	99

Super Digital Inverter

Indoor Outdoor		RAV-SM564UT-E RAV-SP564AT-E	RAV-SM804UT-E RAV-SP804AT-E	RAV-SM1104UT-E RAV-SP1104AT-E	RAV-SM1404UT-E RAV-SP1404AT-E
Nominal Cooling Capacity	kW	5.3	7.1	10	12.5
UK Conditions - Cooling Capacity	kW	5.44	7.46	10.87	12.61
UK Conditions - Sensible Cooling	kW	4.26	5.25	6.67	8.15
Nominal Heating Capacity	kW	5.6	8	11.2	14
UK Conditions - Heating Capacity	kW	4.69	6.72	9.68	11.92
Annual Power Consumption	kWh	735	930	1105	1580
Energy Label Cool/Heat		A++/A+	A++/A+	A++/A+	A++/A+
Power Supply To & Phase		Outdoor /1	Outdoor /1	Outdoor /1	Outdoor /1
Interconnecting Cable		3 core & E	3 core & E	3 core & E	3 core & E
System Start Current	A	1	1	1	1
Running Current (max)	A	6.82 [13.3]	8.95 [20.3]	9.49 [20.5]	14.66 [20.5]
Indoor Units		RAV-SM564UT-E	RAV-SM804UT-E	RAV-SM1104UT-E	RAV-SM1404UT-E
Airflow High/Low	M3/h	1050/780	1230/810	2010/1170	2100/1230
Airflow High/Low	l/s	292/217	341/226	558/325	583/342
Unit Dimensions (HxWxD)	mm	256x840x840	256x840x840	319x840x840	319x840x840
Sound Pressure H/L	dB(A)	32/27	37/28	43/33	44/34
Weight	kg	20	20	24	24
Outdoor Units		RAV-SP564AT-E	RAV-SP804AT-E	RAV-SP1104AT-E	RAV-SP1404AT-E
Suggested Fuse Size	A	16	25	25	25
Pipe Sizes	mm/in	12.7 (1/2") - 6.4 (1/4")	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")
Refrigerant Pre-Charge/Length	m	20	30	30	30
Additional Refrigerant	g/m	20	40	40	40
Max Pipe Length/Height	m	50/30	50/30	75/30	75/30
Sound Pressure Cool/Heat	dB(A)	47/48	48/49	49/50	51/52
Unit Dimensions (HxWxD)	mm	550x780x290	890x900x320	1340x900x320	1340x900x320
Weight	kg	44	63	93	93

3 Phase Super Digital Inverter Outdoor Unit

- High efficiency COP of up to 4.63
- Wide operating range, (cooling mode -15 °C to +43 °C)
- Auto diagnostic function
- Flexible, can be utilised for single, twin or triple indoor applications
- Utilises the latest digital hybrid inverter technology
- Quiet operation as low as 33 bD (A)
- R22 & R407c replacement technology

SUPER
DIGITAL INVERTER



3 Phase Super Digital Inverter

The Super Digital Inverter 3 Phase outdoor units share all the same characteristics of the single phase unit and utilise the same range of indoor units. They offer the advantage when replacing old R22/R407c systems that the electrics are configured in the same format.

Model Reference Outdoor Unit		RAV-SP1104AT8-E	RAV-SP1404AT8-E	RAV-SP1604AT8-E
Air flow Standard, high	m³/h	6060	6180	6180
Sound Power, Cooling/Heating	dB(A)	66/67	68/69	68/70
Sound Pressure, Cooling/Heating	dB(A)	49/50	51/52	51/53
Dimensions	mm	1340x900x320	1340x900x320	1340x900x320
Weight	kg	95	95	95
Operating Range, Cooling	°C	-15 to 46	-15 to 46	-15 to 46
Operating Range, Heating	°C	-20 to 15	-20 to 15	-20 to 15
Pipe Sizes	mm/in	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")	15.9 (5/8") - 9.5 (3/8")
Pipe Length, Maximum/Minimum	m	75/3	75/3	75/3
Pipe Length, Pre-Charged	m	30	30	30
Additional R410A Charged	g/m	40	40	40
Maximum Height Difference	m	30	30	30
Max. Operating Current, Cooling	A	4.45	6.03	7.55
Suggested Fuse Size	A	20	20	20
Power Supply	V-ph-Hz	380/415 3-50	380/415 3-50	380/415 3-50
Supply to		Outdoor Unit	Outdoor Unit	Outdoor Unit
Interconnecting Cables		3 + E	3 + E	3 + E
Outdoor Retail Price		£2,275	£2,350	£2,700