TOSHIBA

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Product Bulletin

D590-0705 Digital Inverter 3 series cassettes and 3 series outdoor units

Available from June 2007

Description	A range of standard cassettes and Digital Inverter (single fan) outdoor units that may be used with both new and existing pipework and offer A class EERs and COPs. Super Digital Inverter outdoor units are unchanged.		
Outdoor models	**Model number**	**H x W x D (mm)**	**Weight (kg)**
	RAV-SM563AT-E	550 x 780 x 290	38 kg
	RAV- SM803AT-E	550 x 780 x 290	44 kg
	RAV- SM1103AT-E	795 x 900 x 320	77 kg
	RAV- SM1403AT-E	795 x 900 x 320	77 kg
Cassettes Standard panel RBC-U21PG(W)-E2 (unchanged)	**Model number**	**H x W x D (mm)**	**Cool & heat capacities**
	RAV-SM563UT-E	256 x 840 x 840	5.3 & 5.6 kW
	RAV- SM803UT-E	256 x 840 x 840	6.7 & 8.0 kW
	RAV- SM1103UT-E	319 x 840 x 840	10.0 & 11.2 kW
	RAV- SM1403UT-E	319 x 840 x 840	12.1 & 14.0 kW
Strategic position and combinations	• 2-series Digital Inverter outdoor units will be available to support remaining 2-series Cassettes • 2-series Cassettes will be phased out (including RAV-SP1102UT-E) o RAV-SM1103UT-E will supersede RAV-SP1102UT-E • 3-series cassettes are only rated for combinations with 3-series Digital Inverter and 2-series Super Digital Inverter outdoor units (single and twin systems). • 3-series Digital Inverter outdoor units are rated for combinations with all 3-series cassettes and 2-series ceiling, compact cassette, ducted and high wall models (single and twin systems). They may also be used with 2-series flexi models as single-split systems only		
Interconnecting cable	3 core + earth (mains rated); single-phase power supply to the outdoor unit.		
Other features	• Wide applications including office, retail and server rooms • Rated to -15°C ambient • Single-fan outdoor units throughout the range • Free limitation of: mode availability, temperature set points, fan speeds and louver control.	• Configurable indoor fan motor • Grouped indoor units can be inter-locked to prevent conflicting mode selection • Removable corner pieces for easy height adjustment. • All cassettes are compatible with the full range of TCC-Link controls	
Literature	Service data A06-010		

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Existing pipework and electrics

3-series Digital Inverter outdoor units may be coupled with appropriately sized 3-series cassettes or the other 2-series models, by either new or existing pipework. Existing pipework may not be the correct size and may contain a residue of oil (mineral or synthetic) and refrigerant (HCFC or HFC). The procedures and qualifications for these situations are outlined below.

Conditions when re-using pipework	
Requirements	• The existing system is still in place and can operate in the cooling mode • The pipes are: refrigeration quality, un-contaminated, insulated and in good mechanical condition. Wall thickness must be >0.8 mm (>1.0 mm if ≥ $^5/_8$"∅).
Procedure • All processes must be done safely. • All refrigerant-handling procedures must be adhered to. • Pressure testing and dehydration must be done to achieve a successful outcome.	• Operate **existing** equipment in cooling for 30 minutes, then pump down. • Recover remaining refrigerant from isolated pipework. • Flush pipework with (oxygen free) nitrogen at 8 psig. Where a twin circuit is used, the individual branches must be flushed; check that any oil is clean. • Connect new components with the flare nuts supplied. Flared connections must be re-made. • Leak test at 500 psig for at least one hour (oxygen-free nitrogen). • Triple-evacuate to 4 Torr (4000 Micron) and maintain for at least 30 minutes. • Add additional refrigerant if necessary (in liquid state); additional charge is determined by the length and size of the liquid line **used.** o $^1/_4$" 20 g/m o $^3/_8$" 40 g/m o $^1/_2$" 80 g/m* • Slowly open both isolation valves and operate the system in the cooling mode. • Close liquid isolation valve and when suction pressure is 10 to 20 psig, remove gauge line from the Schrader valve. • Re-open liquid valve, replace all caps and ensure that system is free of leaks.
When using $^3/_4$" vapour pipe, adjust outdoor PCB settings:	• RAV- SM803AT-E SW801-3 (sub PCB) must be ON • RAV-SM1(1or 4)03AT-E SW801-5 (outdoor PCB) must be ON This reduces the compressor current limiting threshold and discharge pressure.

The effects of non-standard sized pipes*

Existing pipes:	**$^1/_4$ and $^1/_2$**	**$^1/_4$ and $^5/_8$**	**$^3/_8$ and $^5/_8$**	**$^3/_8$ and $^3/_4$**	**$^1/_2$ and $^3/_4$**
563 (5.6 kW)	**30/20m**				
803 (8 kW)	**20/20 m**	**20/20 m**	**30/20 m**	**30/20 m**	
1103 (11 kW)			**50/20 m**	**50/20 m**	**25/10 m**
1403 (14 kW)			**50/30 m**	**50/30 m**	**25/15 m**
The lengths shown are the **maximum/pre-charged** separations for each application.					

*information correct at time of writing (E & OE)

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