

Technical Bulletin

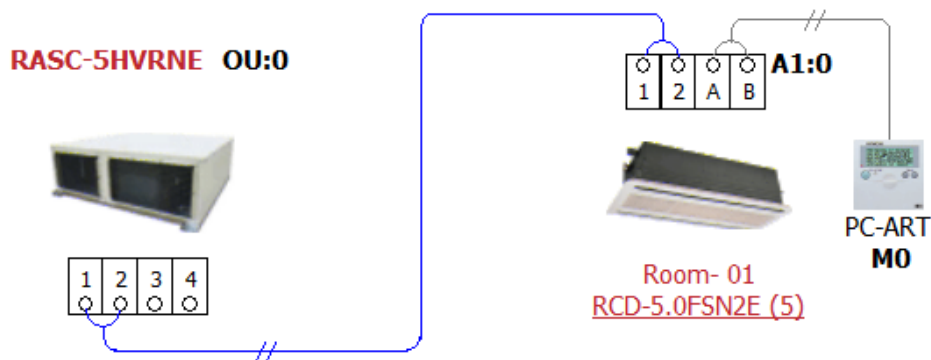
Number	056
Subject	Utopia Centrifugal Models
Date	09 March 2012

Wiring

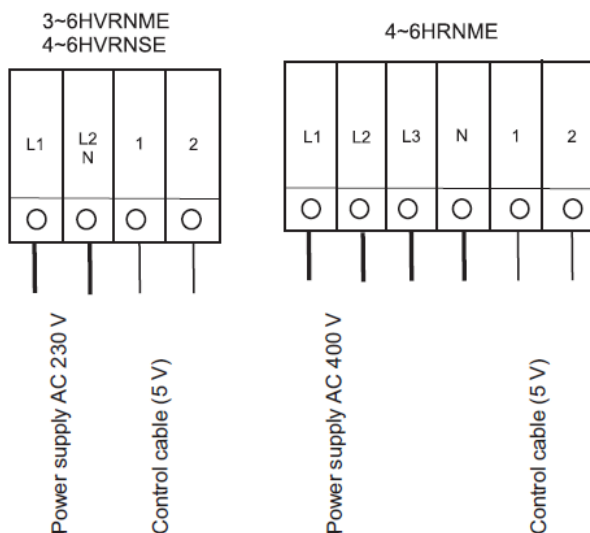
Hitachi Utopia RASC Models require a separate power supply to both the indoor and outdoor unit.

All indoor units require a 5 amp fused spur only.

Interconnecting cable is 2 core 0.75mm² screened.



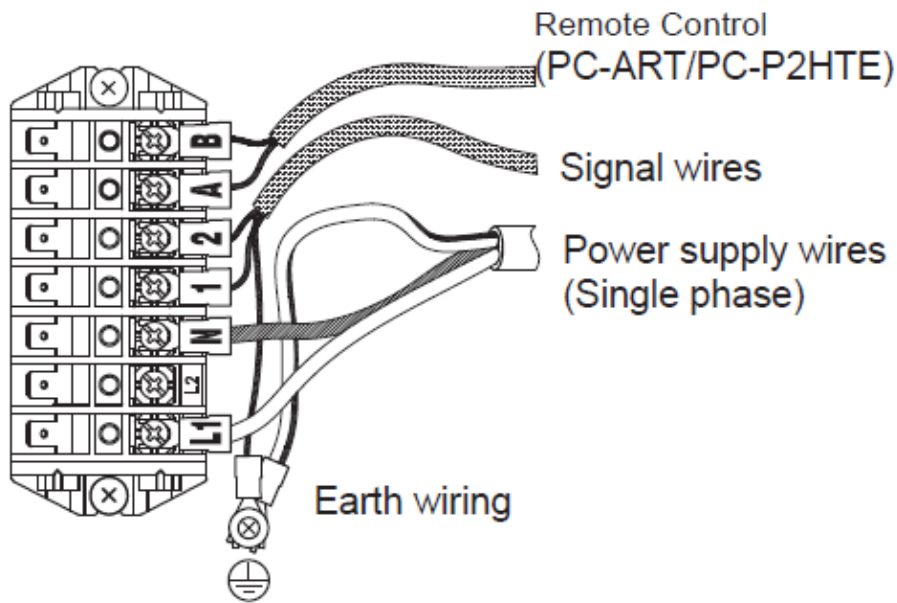
Power to the indoor unit can be taken from the outdoor unit. However, as there is only one terminal block (power in) the cable must be de-rated correctly and a local spur at the indoor unit location must be installed. This must be a separate cable to the 2-core data interconnecting.



Interconnecting cable between indoor and outdoor is to terminal blocks 1 and 2.

Remote controller cable to the indoor unit/s is to terminal block A and B

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Important Installation Information

It is important to ensure that you are aware of the overall dimension and weights of these units. In comparison to traditional condensing units, they are considerably bigger and heavier. You must check that any ceiling can resist the weight of these units and that you have adequate space to manoeuvre and install. **You will also require substantial space for service. These units are typically installed in ceilings and are boxed in but there needs to be sufficient service spares for access to service ports and the compressor.**

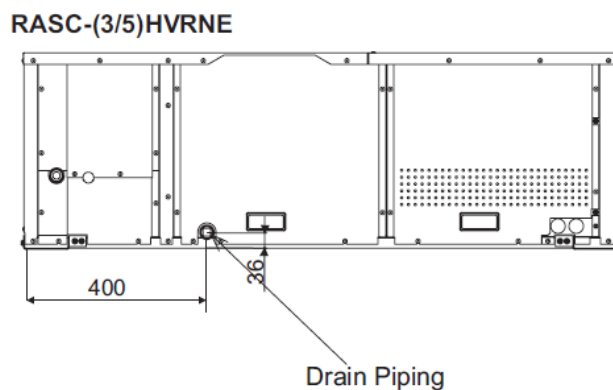
The condensing unit will require adequate drainage. As these units are traditionally installed inside the building they need to be installed correctly to ensure that the residual condensate water from the condensing unit is removed correctly.

If the unit is installed in a cold area the drain water may freeze. Install an electric drain heater in this instance.

Install the unit so that the drain outlet parts are slightly (approx. **20 mm**) **lower than the other side**, in order to avoid incorrect drain discharge.

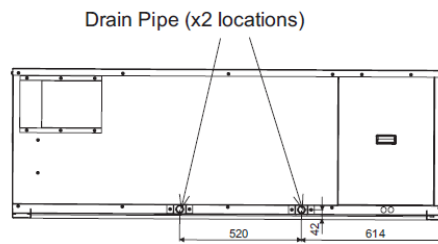
If using a condensate pump to remove water, ensure that a large capacity, hi flow pump used.

1. Drain pipe location is indicated in the below figures.

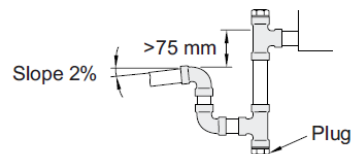


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RASC-10HRNE



2. Connect a siphon as shown in the figure below. Pay special attention when connecting it to the unit (proper installation work is needed in order to guarantee connection pipes matching).



3. Fasten the siphon to the drain hose with an adhesive and a field-supplied clamp.
4. Prepare a draining pipe of 25 OD (outer diameter) for the draining line which shall be performed by a down slope of 2 %.
5. Check to ensure that the water drains smoothly by pouring some water into the drain pan.
6. Check to ensure that the water do not remain in the drain pan.
7. Check the drain connections periodically (once a year) in order to detect water leakage.

Piping Specifics

All Hitachi Utopia pipe sizing is as per the outdoor unit. Many indoor units come with a flare reducer. This is because the indoor units are common to R407C Split Outdoors (Europe), R410a Split Outdoors, RASC Systems and Set-Free VRF.

Please check pipe sizes before proceeding.

Logicool can provide schematics for anything from a simple split system to a large VRF.

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RASC-3HVRNE



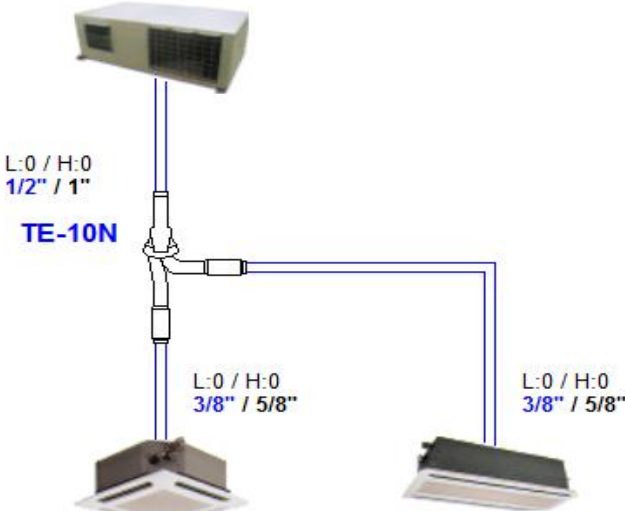
Room-02
RPI-3.0FSN2E (3)

RASC-5HVRNE



Room-01
RCD-5.0FSN2E (5)

RASC-10HRNE



Room-03
RCI-5.0FSN2E (5)

Room-03
RCD-5.0FSN2E (5)

Torque Settings

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Valve			Size		Tightening torque (N.m)		
			Pipe size	Hexagonal Wrench (Allen) (Hex1)	A	B	C
Liquid	5 HP	Fig A	9.53 (3/8")	4 mm	33~42	33~42	14~18
	10 HP	Fig A	12.7 (1/2")	4 mm	40	15.5	9.8
Gas	5 HP	Fig A	15.88 (5/8")	10 mm	68~82	14~18	8~12
	10 HP	Fig B	25.4 (1")	10 mm	(*)	49	9.8

Do not apply force to the spindle valve at the end of opening (5 N.m or smaller). The back seat construction is not provided.

At the test run, fully open the spindle. If not fully opened, the devices will be damaged.

Optional H-Link Control

All Hitachi Utopia models communicate via H-Link and as such can interface with Hitachi Set-Free systems.

Refrigerant Charge

All models are pre-charged to 20 metres (RASC 3) or 30 metres (RASC 5 and RASC 10). Contact Logicool for additional refrigerant charge when piping length exceeds the above. Please check outdoor unit data for maximum piping length on each model.

Controls



Hitachi Utopia systems do not come with a controller as standard. All controllers are optional and a variety of controls for all models can be selected including the following

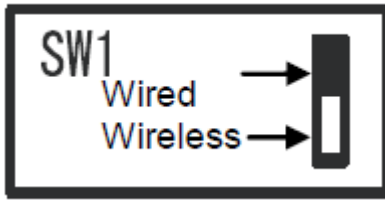
- PC-ART - Standard Controller with 7-Day Timer
- PC-ARH - Simplified Controller
- PC-AL** - Wireless Remote Controller

All systems can also interface with Hitachi Central and Web-Based controllers.

All Hitachi Indoor Units with the exception of RPK Wall Mounted are set up for Hard Wired Control.

In the case of RPK Wall units a dipswitch (DSW1) needs to be set to allow hard wired interface.

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Model Specification – Models 3 –5 (Single Phase)

Outdoor Unit Technical Data

	RASC-3HVRNE	RASC-5HVRNE
Model	1-3	1-3
Connectivity	7.10	12.50
Cooling (kW)	8.00	14.00
Heating (kW)	430	430
Height (mm)	1250	1250
Width (mm)	1300	1300
Depth (mm)	168	176
Weight (kg)	40	65
Airflow (m3/min)	46	52
Sound Pressure Cooling (dBA)	61	71
Sound Power Cooling (dBA)	50	50
Static Pressure (Pa)	9.52 (3/8)	9.52 (3/8)
Liquid (mm(inches))	15.88 (5/8)	15.88 (5/8)
Gas (mm(inches))	30	50
Max Pipe Run (m)	30	30
Max Pipe Lift	20	30
Pre-charged to (m)	2.8	4
Standing Charge (kg)	R410a	R410a
Refrigerant	Single	Single
Phase	Outdoor	Outdoor
Power Supply to	40	50
Fuse Rating (A)	LNE + 2 *	LNE + 2 *
Interconnecting	TBC	TBC
Starting Current (A)	2470/2600	4650/4560
System Power Input (Cool/Heat) - watts		

Model Specification – Model 10 (Three Phase)

Outdoor Unit Technical Data

	RASC-10HRNE
Model	1-4
Connectivity	25.00
Cooling (kW)	28.00
Heating (kW)	640
Height (mm)	1850
Width (mm)	985
Depth (mm)	290
Weight (kg)	

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Airflow (m3/min)	110
Sound Pressure Cooling (dBA)	60
Sound Power Cooling (dBA)	83
Static Pressure (Pa)	63
Liquid (mm(inches))	12.7 (1/2)
Gas (mm(inches))	25.40 (1 1/8)
Max Pipe Run (m)	30
Max Pipe Lift	30
Pre-charged to (m)	30
Standing Charge (kG)	9
Refrigerant	R410a
Phase	Three
Power Supply to	Outdoor
Fuse Rating (A)	40
Interconnecting	LNE + 2 *
Starting Current (A)	TBC
System Power Input (Cool/Heat) - watts	8600/8700