

Technical Bulletin

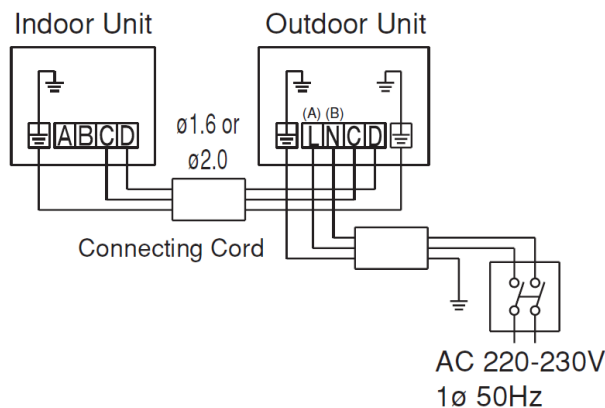
Number	039a
Subject	Hitachi Monozone models
Date	07 August 2013

Wiring

Hitachi Monozone models are unique in that they have a 35vDC power to the indoor unit fed directly from the outdoor unit. The indoor unit has a DC fan motor and low voltage electronics and therefore does not require 240vAC supply.

Power supply is to OUTDOOR unit with a 2 core 35vDC (earthed) interconnecting cable to the indoor unit.

Interconnecting cable is to terminals C and D.



Torque Settings

Models 25 - 35

		Outer diameter of pipe (ø)	Torque N·m (kgf·cm)
Small diameter side		6.35 (1/4")	13.7 – 18.6 (140 – 190)
Large diameter side		9.52 (3/8")	34.3 – 44.1 (350 – 450)
Valve head cap	Small diameter side	6.35 (1/4")	19.6 – 24.5 (200 – 250)
	Large diameter side	9.52 (3/8")	19.6 – 24.5 (200 – 250)
Valve core cap			12.3 – 15.7 (125 – 160)

Model 50

		Outer dia. of pipe	Torque N·m (kgf · cm)
Small dia. side		6.35 (1/4")	13.7 – 18.6 (140 – 190)
Large dia. side		12.7 (1/2")	44.1 – 53.9 (450 – 550)
Valve head cap	Small dia. side	6.35 (1/4")	19.6 – 24.5 (200 ~ 250)
	Large dia. side	12.7 (1/2")	29.4 – 34.3 (300 – 350)
Valve core cap			12.3 – 15.7 (125 ~ 160)

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Additional Functions

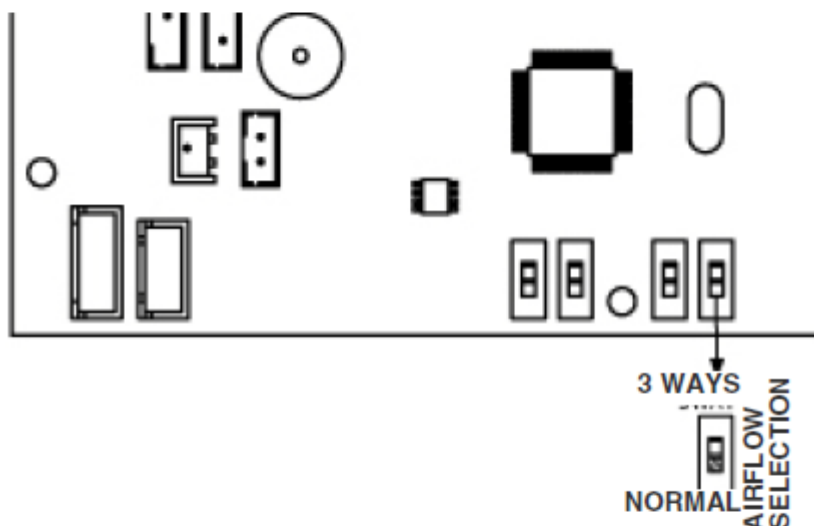
The Hitachi Monozone RAI Cassette can be set to **2, 3 or 4 Way Blow**.

In addition the **Static Pressure on Cassettes can be reduced** when installing in ceiling heights of lower than 2.5 metres.

Selecting the Air flow switch

1. Turn power off.
2. Remove cover of the electrical box
3. When selecting discharge direction of 2 directions or 3 directions, select the "AIR FLOW SELECTION" on the main PWB to 3 way.

When selecting discharge direction to 4 directions, select the "AIR FLOW SELECTION" on the switch PWB to NORMAL.



NOTE:

During 2 directions or 3 directions, sound level will increase.

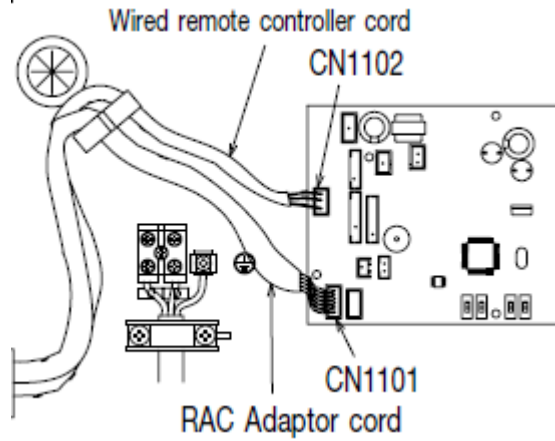
Selecting the Air flow switch

1. Turn power off.
2. Remove cover of the electrical box
3. When install the indoor unit 2500mm or more from the floor, select the "STATIC PRESSURE SW" on the main PWB to HIGH PRESSURE

When install the indoor unit below than 2500mm from floor, select the "STATIC PRESSURE SW" on the main PWB to NORMAL

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Control Type	PCB Connection
H-Link Control	CN1101
Hard Wired Control	CN1102

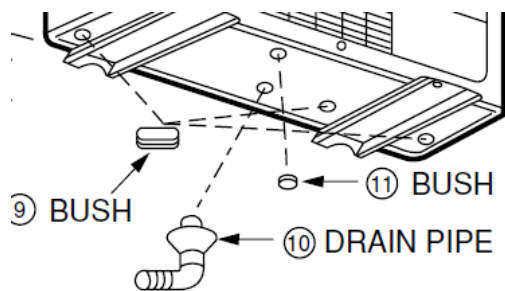


Refrigerant Charge

All models are pre-charged to their maximum run of 20 metres. Minimum pipe run is 5 metres

Drain

All models come with a drain elbow included.



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Model Specification

All cooling data shown below is based on SEER condition unless specified otherwise

All heating data shown below is based on SCOP (Avg. Climate) Average Climate condition unless specified otherwise

Cassette Systems

Indoor Unit Technical Data			
	RAI-25RPA	RAI-35RPA	RAI-50RPA
Model			
Cooling (kW) - Nominal	2.50	3.50	5.00
Heating (kW) - Nominal	3.50	4.80	6.50
Cooling (kW) - UK Condition	2.27	2.78	3.96
Heating (kW) - UK Condition	2.92	4.01	5.43
Sensible Heat Ratio	80%	80%	75%
Sound Pressure - Cooling (dBA)	35/32/29/25	39/34/29/26	43/35/32/29
Sound Pressure - Heating (dBA)	36/33/30/27	40/36/32/29	43/36/32/30
Height (mm)	285 (32)	285 (32)	285 (32)
Width (mm) - (Grille)	580 (650)	580 (650)	580 (650)
Depth (mm) - (Grille)	580 (650)	580 (650)	580 (650)
Weight (kg) - (Grille)	20 (4)	20 (4)	20 (4)
Air Flow - Cooling (m ³ /hr)	510/420/348/330	648/480/348/330	720/480/348/330
Air Flow - Heating (m ³ /hr)	510/420/348/330	648/480/348/330	720/480/348/330
Outdoor Unit Technical Data			
	RAC-25NPA	RAC-35NPA	RAC-50NPA
Model			
Height (mm)	570	570	650
Width (mm)	750	750	850
Depth (mm)	280	280	298
Weight (kg)	38	38	45
Sound Pressure - Cooling (dBA)	46	47	50
Sound Pressure - Heating (dBA)	46	49	52
Liquid (mm[inches])	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)
Gas (mm[inches])	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)
Max Pipe Run	20	20	20
Max Pipe Lift	10	10	10
Pre-charged to (m)	20	20	20
Standing Charge (kg)	1.15	1.15	1.40
Refrigerant	R410a	R410a	R410a
Phase	Single	Single	Single
Power Supply to	Outdoor	Outdoor	Outdoor
Max Max Start/Run Current (A)	4.20/4.30	4.20/5.77	10.00/9.70
Fuse Rating (A)	16	16	16
Interconnecting	2C + E*	2C + E*	2C + E*
System Power Input (Cool/Heat) - kW	TBC	TBC	TBC
Energy Facts			
SEER	5.70	5.80	5.20
SCOP (Avg. Climate)	3.80	3.80	3.80

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Model Specification

All cooling data shown below is based on SEER condition unless specified otherwise

All heating data shown below is based on SCOP (Avg. Climate) Average Climate condition unless specified otherwise

Ducted Systems

Indoor Unit Technical Data			
	RAD-25RPA	RAD-35RPA	RAD-50RPA
Model			
Cooling (kW) - Nominal	2.50	3.50	5.00
Heating (kW) - Nominal	3.50	4.80	6.00
Cooling (kW) - UK Condition	2.32	3.10	3.964
Heating (kW) - UK Condition	3.10	4.01	5.013
Sensible Heat Ratio (SHR)	80%	71%	75%
Sound Pressure - Cooling (dBA)	36/34/31/29	36/34/31/29	38/35/32/29
Sound Pressure - Heating (dBA)	37/33/30/27	37/33/30/27	35/35/32/29
Height (mm)	235	235	235
Width (mm)	750	750	750
Depth (mm)	400	400	400
Weight (kg)	19	19	19
Air Flow - Cooling (m ³ /hr)	510/450/390/330	510/450/390/330	510/450/360/330
Air Flow - Heating (m ³ /hr)	600/480/420/360	600/480/420/360	630/480/420/360
Outdoor Unit Technical Data			
	RAC-25NPA	RAC-35NPA	RAC-50NPA
Model			
Height (mm)	570	570	650
Width (mm)	750	750	850
Depth (mm)	280	280	298
Weight (kg)	38	38	45
Sound Pressure - Cooling (dBA)	46	47	50
Sound Pressure - Heating (dBA)	46	49	52
Liquid (mm(inches))	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)
Gas (mm(inches))	9.52 (3/8)	9.52 (3/8)	12.7 (1/2)
Max Pipe Run	20	20	20
Max Pipe Lift	10	10	10
Pre-charged to (m)	20	20	20
Standing Charge (kg)	1.15	1.15	1.40
Refrigerant	R410a	R410a	R410a
Phase	Single	Single	Single
Power Supply to	Outdoor	Outdoor	Outdoor
Max Max Start/Run Current (A)	4.20/4.30	4.20/5.77	10.00/9.70
Fuse Rating (A)	16	16	16
Interconnecting	2C + E*	2C + E*	2C + E*
System Power Input (Cool/Heat) - kW	0.63/0.97	1.24/1.70	1.93/2.16
Energy Facts			
SEER	5.10	5.10	4.70
SCOP (Avg. Climate)	3.80	3.80	3.80