

SINKO

ECM FAN COIL UNIT SERIES

Energy saving and

Environment-friendly Type



Love the Earth

Save the Environment by

Reducing carbon emission

GSRC series

3-speeds Type



G-SRC-3S-2020A

- **Product Characteristics**

SINKO 3-speeds ECM (EC motor) Fan Coil Unit uses Brushless AC motor with advance optimized control technology which has low noise level, low vibration, low loss, high torque and efficiency. It is the best motor for air conditioners for carbon emission reduction.

A . Application Places

Application for high class hotels, motels, stores, restaurants, offices and hospitals.

B . Runs smoothly with very low noise and nearly no vibration

SINKO's ECM uses sinusoidal wave AC to drive the rotor, more advanced than regular BLDC or EMC which uses square wave DC. Sinusoidal wave AC results in low electrical noise and low vibration during operation.

C . High efficiency and energy saving

Compared to traditional motors, under the same air volume of external static pressure, its energy saving at low speed could be up to 70%.

D . Easy and simple to operate

It can be used with traditional 3-speeds thermostat for PSC (Permanent Split Capacitor) motor. It can also be used with SINKO's digital thermostat integrating all control functions at one point.

E . Convenient onsite management

Motor speed and power can be adjusted according to different air volume, static pressure, and noise level requirement at site with our calibration chart.

F . Stable quality with high reliability

The main body of the ECM is integrated with the driver to effectively lower interference and wiring problems. The driver module consists of multiple protection functions like over heat, over current and locked rotor. It is highly stable and reliable.

G . Low maintenance cost

There only two ECM for the entire series of GSRC fan coil unit, one double shaft and one single shaft. Power and speed of our motors can be adjusted to suit whole range of air flow and static pressure. Greatly reduced the number of spare parts.

H . Easy for retro-fit work

The size and installation method of the ECM are the same as our traditional PSC motors. They can be replaced into existing installations without changing the control system.

※ Step-less ECM are also available.

● **Energy saving advantages**

Under the same external static pressure and air volume, the ECM can save up to 70% in power consumption rate as compared to traditional 3-speed PSC motor. The comparison of power consumption and energy efficiency between ECM and traditional 3-speed PSC motor is shown in diagram 1 and 2.

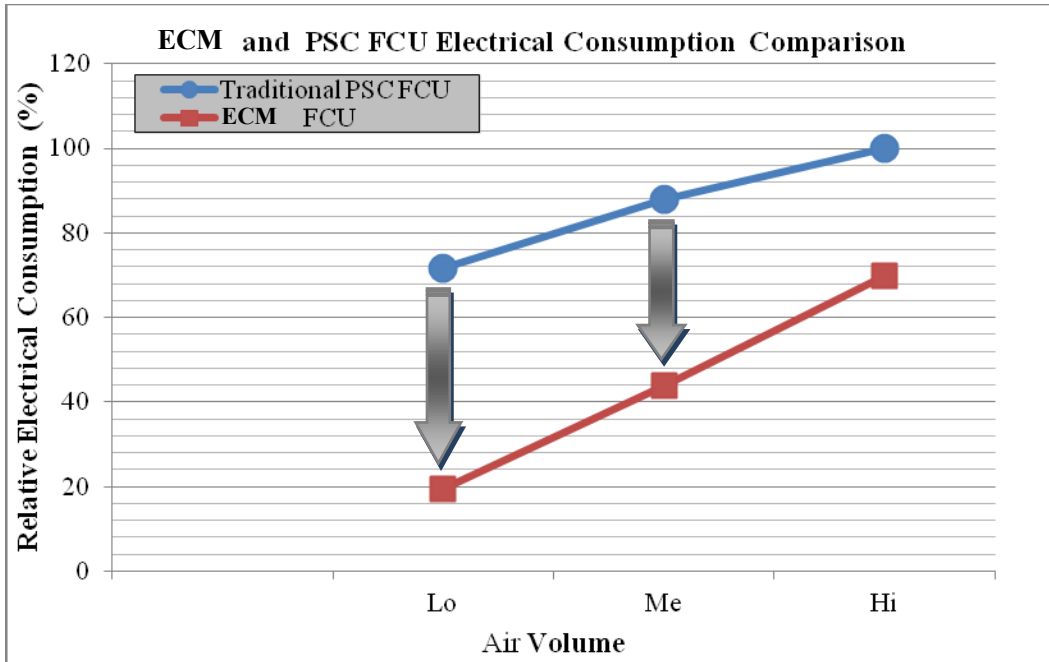


Diagram 1: The FCU electrical consumption comparison between ECM and traditional 3-speed PSC motor

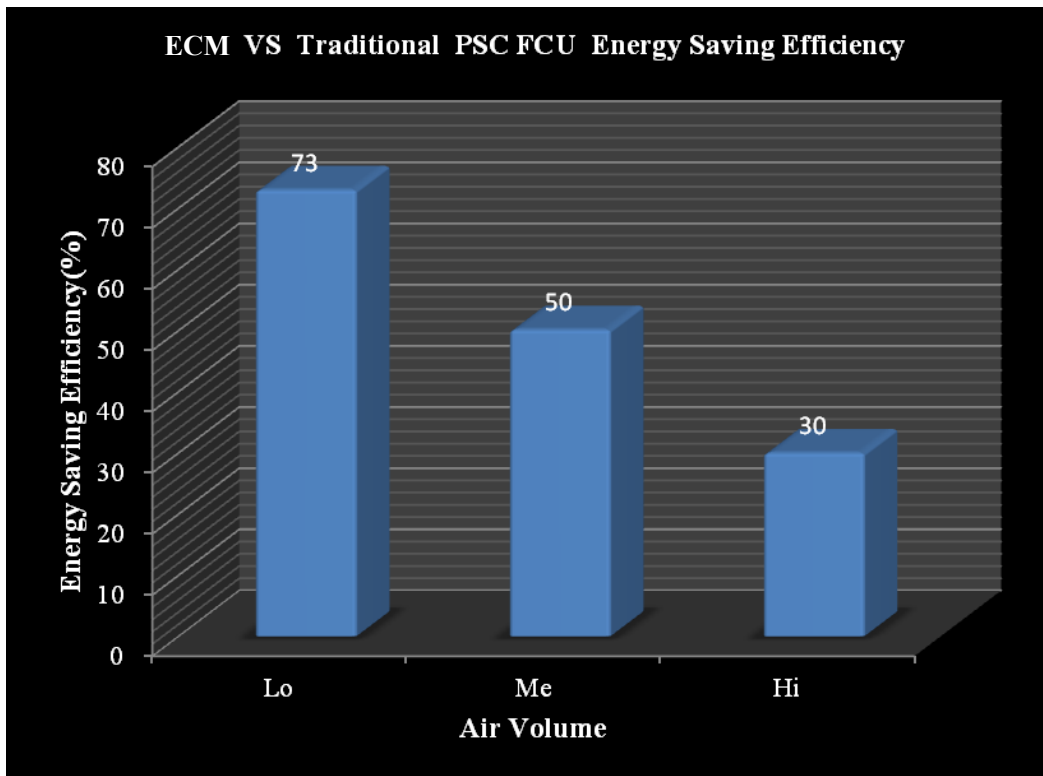
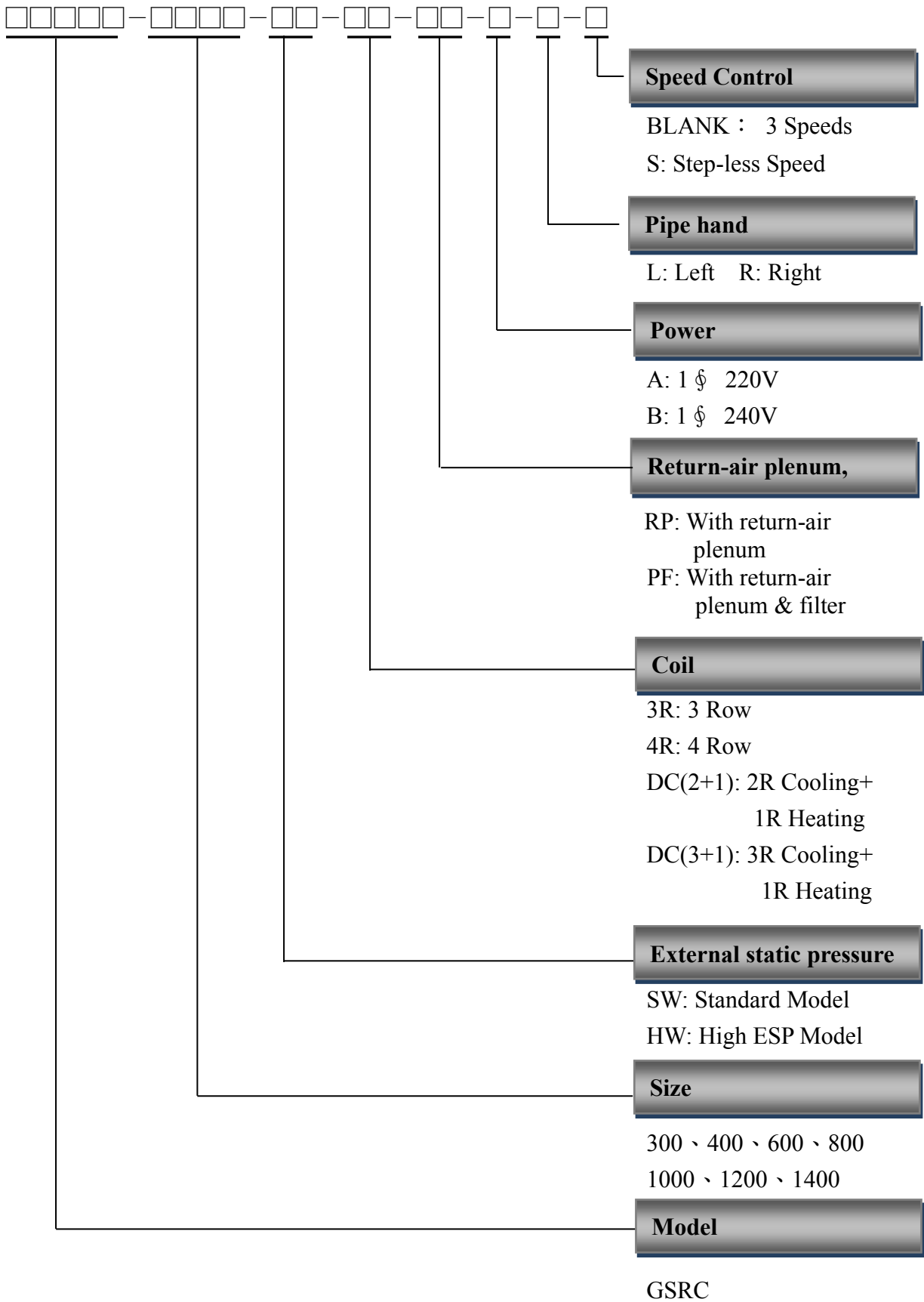


Diagram 2: The energy saving efficiency comparison between ECM and traditional 3-speed PSC motor

● **Nomenclature (Reference)**



● **Specification**

Type		Ceiling hideaway type fan coil unit							
Model		GSRC-SW, GSRC-HW							
Size		300	400	600	800	1000	1200	1400	
Cooling capacity (watt)		2820	4560	5810	7220	8760	10600	12860	
Fan	Type	Forward-curved DIDW centrifugal fan							
	Number	1	2	2	2	3	4	4	
Air Volume (L/sec)	HW	H	157	238	281	356	449	519	643
		M	122	176	208	272	333	382	480
		L	83	114	134	179	215	246	314
	SW	H	139	192	279	312	423	495	593
		M	105	139	206	232	313	365	441
		L	70	89	133	150	202	230	287
Motor	Type	Permanent magnet synchronous motor							
	Power supply	AC 220V 50Hz							
	Number	1	1	1	1	2	2	2	
Input power (watt)	HW	H	62	76	84	115	140	150	209
		M	38	44	47	64	79	85	113
		L	21	23	24	34	40	43	54
	SW	H	44	47	68	77	106	114	154
		M	27	29	39	44	61	66	85
		L	16	17	21	27	32	35	42
Coil	Type	Slit surface aluminum fins mechanically bonded to copper tube, complete with water in/out sockets and manual air vent.							
	Row/ FPI	3- Row / 12 FPI							
	Operating pressure(kPa)	1700kPa(250psig) maximum ,unless otherwise specified							
Piping	Inlet / Outlet	3/4" FPT Conn.							
	Drain	3/4" MPT Conn.							
Water flow (L/sec)		0.135	0.218	0.278	0.345	0.419	0.506	0.614	
Insulation for drain pan		6mm thickness insulation material							
Weight (kg)	Without Plenum	14	19	20	24	32	37	39	
	With Plenum	17	23	25	30	39	44	48	

Note :

1. Entering Air Temperature : DB 27°C/WB19.5°C ; Entering Water Temperature : 7°C
2. SW (Standard Model) : 30 Pa External Static Pressure
3. HW (High Static Model) : 50 Pa External Static Pressure

● **Specification**

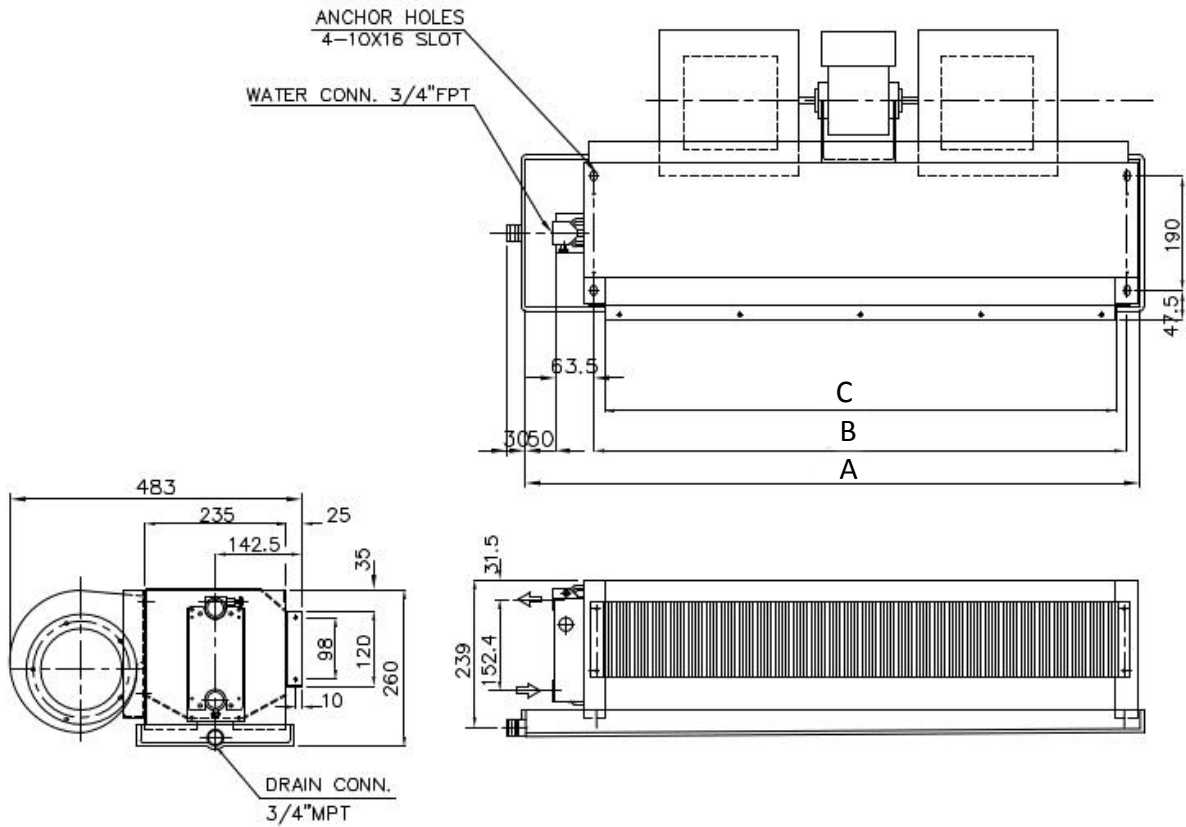
Type		Ceiling hideaway type fan coil unit							
Model		GSRC-SW, GSRC-HW							
Size		300	400	600	800	1000	1200	1400	
Cooling capacity (watt)		3100	5200	6980	8000	9700	12100	14880	
Fan	Type	Forward-curved DIDW centrifugal fan							
	Number	1	2	2	2	3	4	4	
Air Volume (L/sec)	HW	H	135	209	283	317	399	484	625
		M	104	155	208	239	292	353	465
		L	71	100	134	154	184	219	303
	SW	H	120	170	266	279	378	460	585
		M	91	122	195	203	275	332	435
		L	59	73	126	131	172	204	284
Motor	Type	Permanent magnet synchronous motor							
	Power supply	AC 220V 50Hz							
	Number	1	1	1	1	2	2	2	
Input power (watt)	HW	H	56	71	91	107	128	152	209
		M	34	41	51	61	73	86	113
		L	20	22	27	30	36	42	55
	SW	H	39	44	70	74	100	115	160
		M	25	27	40	42	56	65	88
		L	16	17	22	23	30	34	44
Coil	Type	Slit surface aluminum fins mechanically bonded to copper tube, complete with water in/out sockets and manual air vent.							
	Row/ FPI	4- Row / 12 FPI							
	Operating pressure(kPa)	1700kPa(250psig) maximum ,unless otherwise specified							
Piping	Inlet / Outlet	3/4" FPT Conn.							
	Drain	3/4" MPT Conn.							
Water flow (L/sec)		0.148	0.249	0.333	0.382	0.465	0.578	0.711	
Insulation for drain pan		6mm thickness insulation material							
Weight (kg)	Without Plenum	15	20	21	25	34	40	42	
	With Plenum	18	24	26	31	41	47	51	

Note :

1. Entering Air Temperature : DB 27°C/WB19.5°C ; Entering Water Temperature : 7°C
2. SW (Standard Model) : 30 Pa External Static Pressure
3. HW (High Static Model) : 50 Pa External Static Pressure

● Dimension

3R Without Plenum

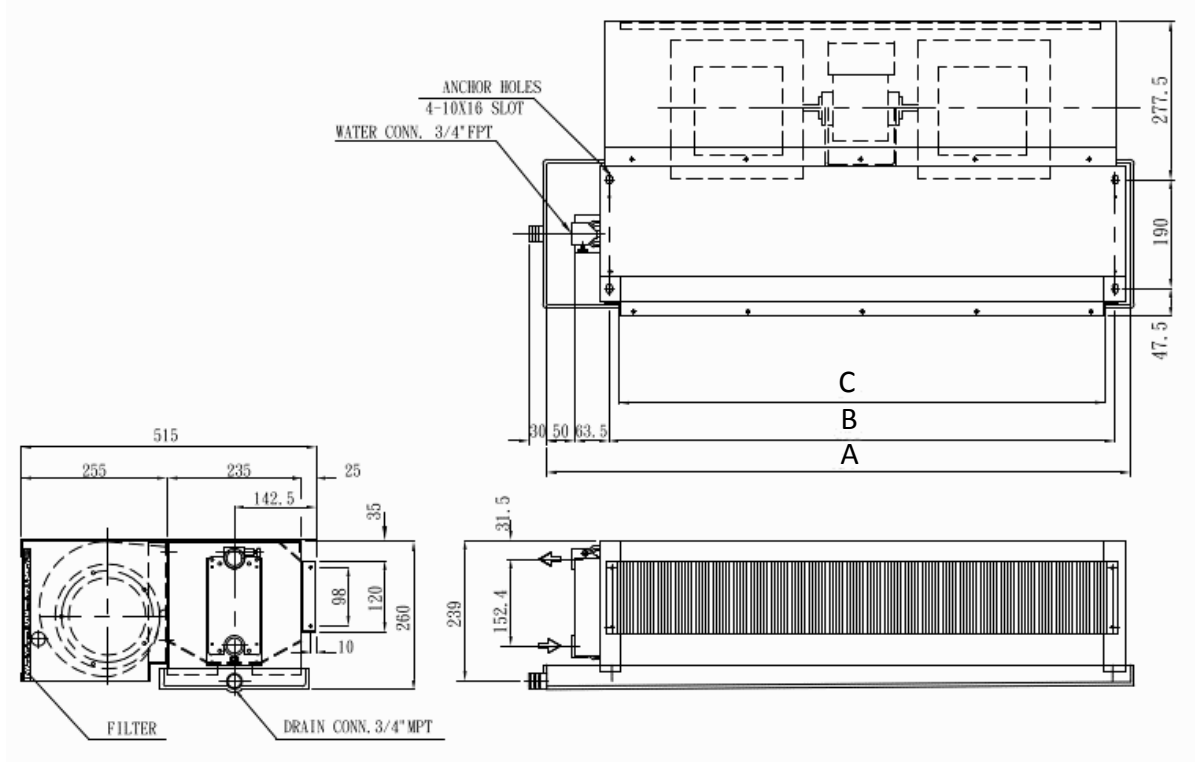


Model / Size	Dimension (mm)		
	A	B	C
GSRC-300	635	500	462
GSRC-400	885	750	712
GSRC-600	1020	885	847
GSRC-800	1305	1170	1132
GSRC-1000	1490	1340	1302
GSRC-1200	1740	1590	1552
GSRC-1400	1920	1770	1732

- Remarks: 1. The pipe connection method is identified by facing the air outlet, if the water in/out pipe is on the left side, the connection is on the left.
2. Special anti-corrosion aluminum fin or copper fin for water coil can be ordered upon request.

● Dimension

3R With Plenum

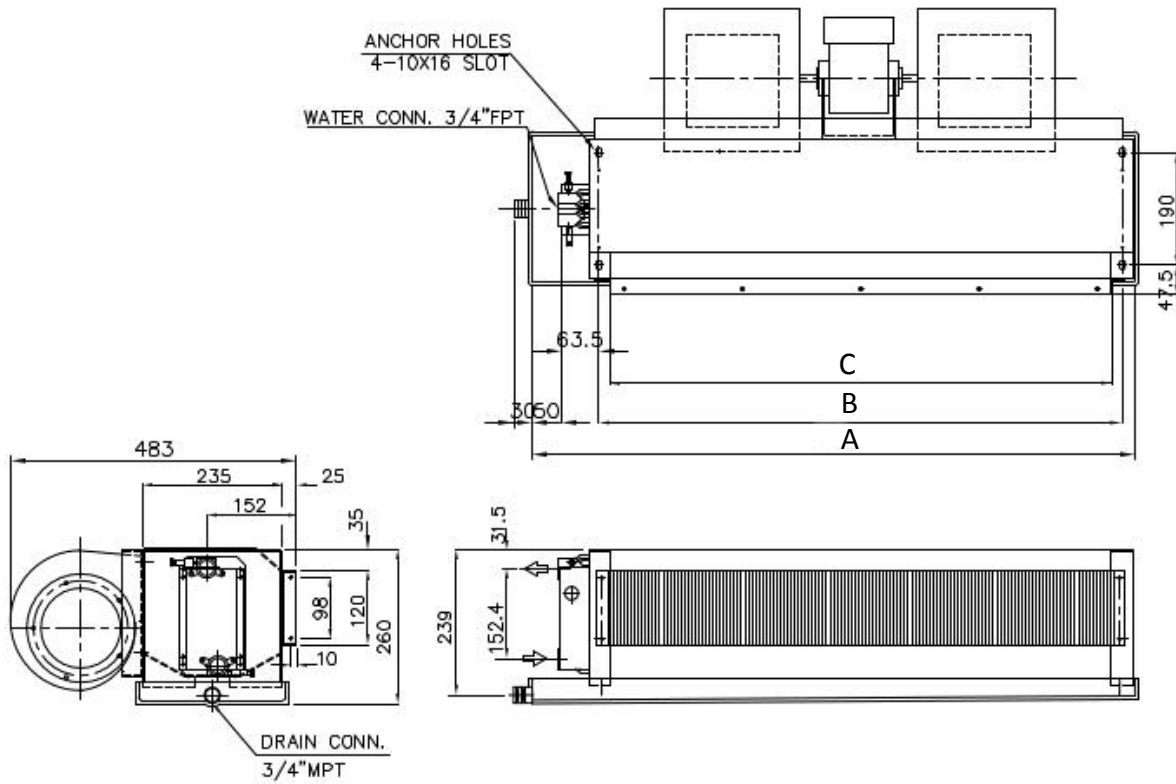


Model / Size	Dimension (mm)		
	A	B	C
GSRC-300	635	500	462
GSRC-400	885	750	712
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GSRC-1200	1740	1590	1552
GSRC-1400	1920	1770	1732

- Remarks: 1. The pipe connection method is identified by facing the air outlet, if the water in/out pipe is on the left side, the connection is on the left.
2. Special anti-corrosion aluminum fin or copper fin for water coil can be ordered upon request.

● Dimension

4R Without Plenum

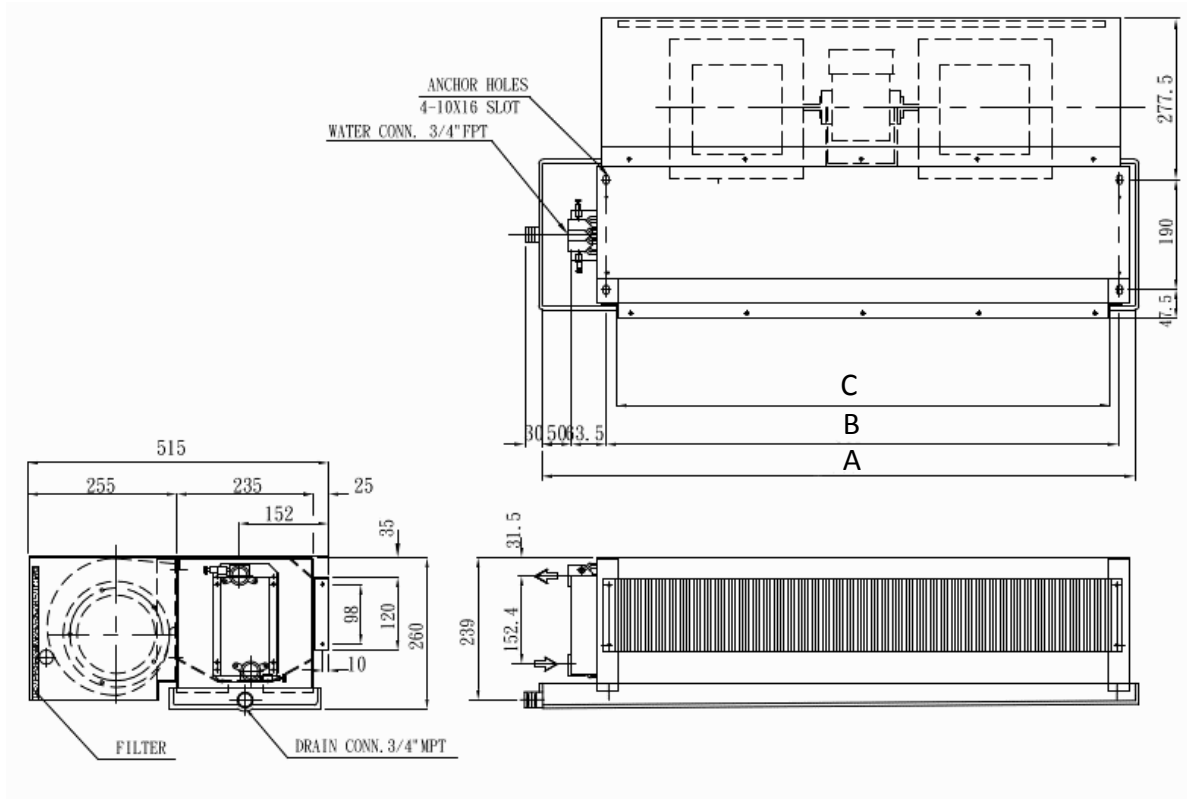


Model / Size	Dimension (mm)		
	A	B	C
GSRC-300	635	500	462
GSRC-400	885	750	712
GSRC-600	1020	885	847
GSRC-800	1305	1170	1132
GSRC-1000	1490	1340	1302
GSRC-1200	1740	1590	1552
GSRC-1400	1920	1770	1732

- Remarks: 1. The pipe connection method is identified by facing the air outlet, if the water in/out pipe is on the left side, the connection is on the left.
2. Special anti-corrosion aluminum fin or copper fin for water coil can be ordered upon request.

● Dimension

4R With Plenum

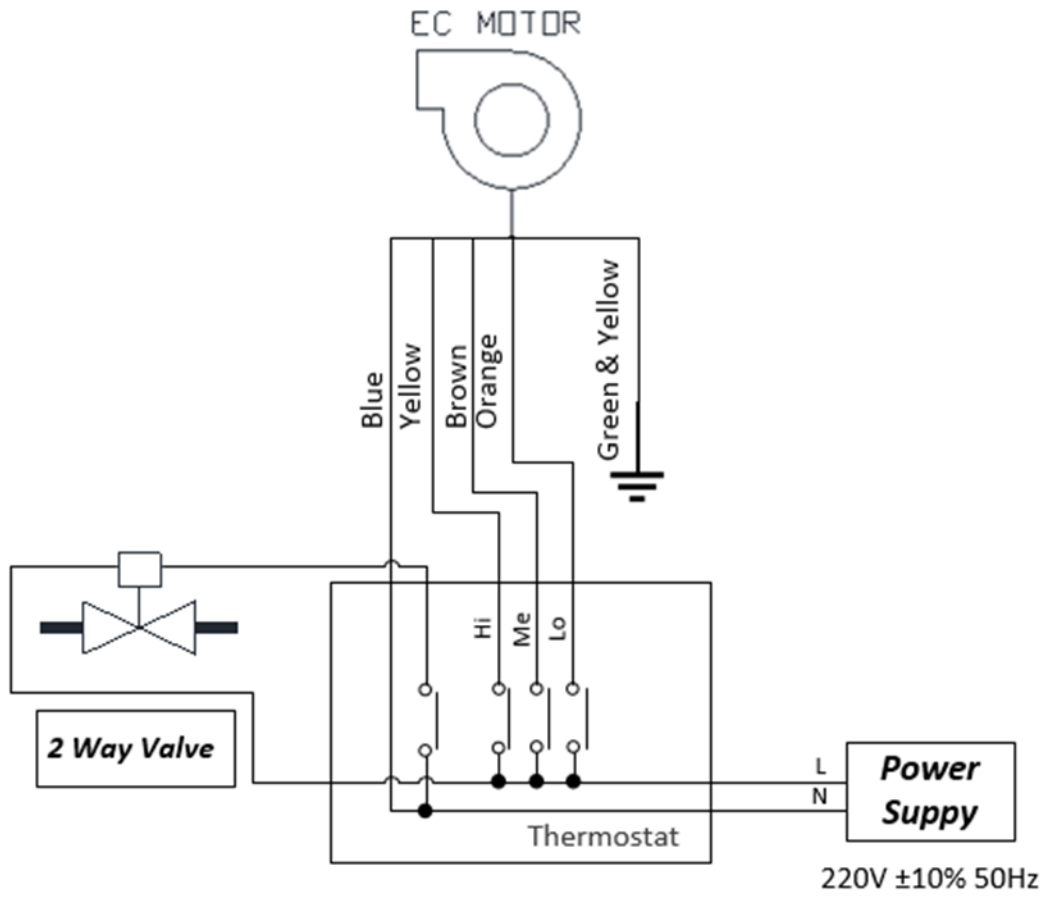


Model / Size	Dimension (mm)		
	A	B	C
GSRC-300	635	500	462
GSRC-400	885	750	712
GSRC-600	1020	885	847
GSRC-800	1305	1170	1132
GSRC-1000	1490	1340	1302
GSRC-1200	1740	1590	1552
GSRC-1400	1920	1770	1732

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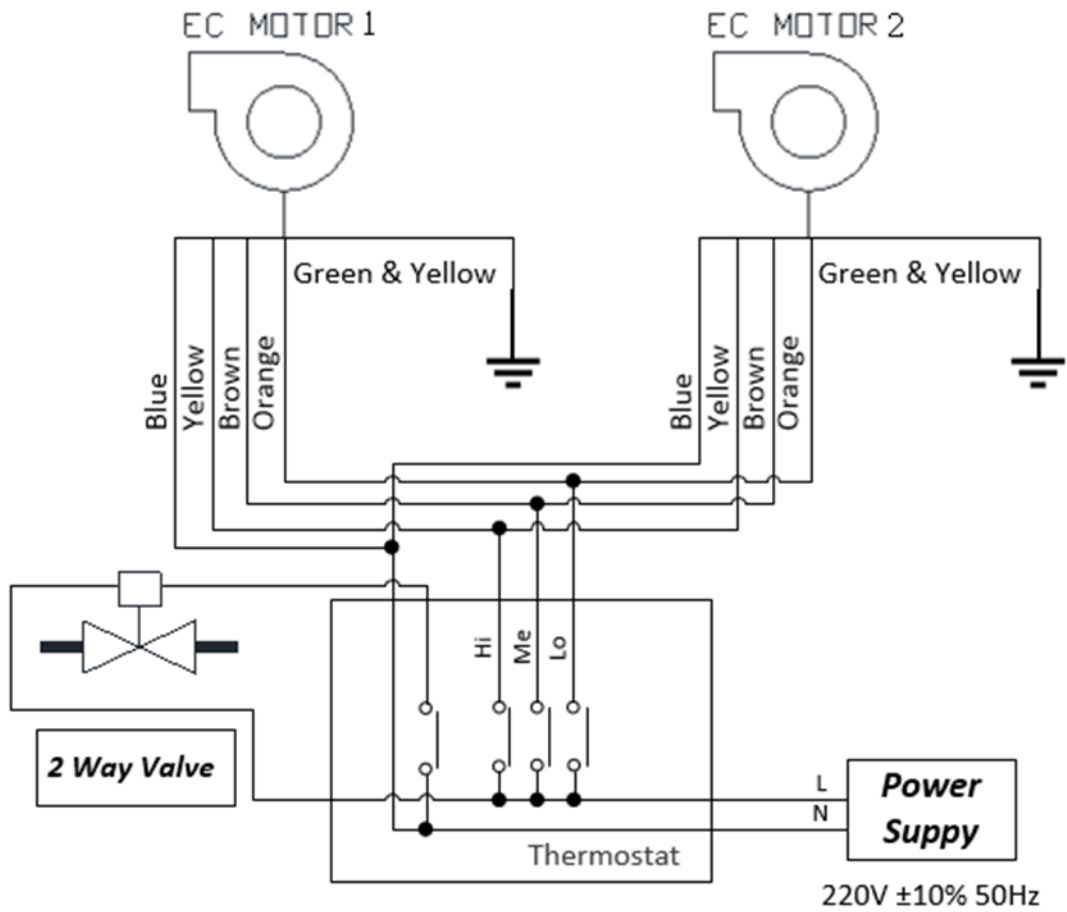
- **Wiring diagram (3 -speed type)**

3Speed Type: One Motor



- **Wiring diagram (3 -speed type)**

3Speed Type: Two Motor



● Thermostat (Optional)

Provides one type of thermostat with the ECM FCU which can precisely and automatically adjust a room temperatures.



TW1003AC

- ◆ LCD back light display
- ◆ Touch-key
- ◆ 3-speed control
- ◆ Built-in temperature sensor
- ◆ Chiller remote control
- ◆ Size: 86(W)×86(H)×14(D) mm

SINKO

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