Carrier

United Technologies

The world leader in air conditioning since 1902

Trusted with comfort and efficiency for over 115 years

KSM Ducted Series

Carrier
United Technologies
turn to the experts

Making the World a Better Place To Live, Work and Play

Our mission is to make the world a better place. This mission dates back more than a hundred years ago when Willis Carrier invented the basics of modern air conditioning and developed the first air conditioning system. Since then, we have worked to create a comfortable, productive and healthy indoor environment, regardless of the weather. We have also made great progress in ensuring that food and other perishables are transported and preserved for safe consumption. In enhancing our safety and comfort, we never forget our responsibility to preserve the global environment. Carrier was the first air conditioning manufacturer to use non-ozone depleting chlorine-free refrigerants. In recognition of our commitment to developing products for a safer, cleaner and less polluted planet, Carrier received the prestigious Ozone Protection Award from the US Environmental Protection Agency (EPA). Today, Carrier is the world's largest manufacturer of air conditioning, heating, ventilation and commercial refrigeration systems.

History of Carrier

When Willis Carrier invented the first system for "manufactured weather" in 1902, he sparked an industry that revolutionized the way in which we live, work and play. From that defining moment and through to the present day Carrier has been a company built on a legacy of innovation. For more than a century, our research, expertise and forethought have resulted in market-leading innovations and "firsts" that have shaped and defined the heating, air conditioning and refrigeration industry. Through our history of product excellence and committed customer service, we have evolved into a global company serving millions of people and businesses in 172 countries on six continents around the world.

Historical Milestones

1902 Willis Carrier invents the world's first mechanical air conditioner.

1906 U.S. patent issued for "Apparatus for Treating Air"

1915 Carrier Engineering Corp. is founded in New York.

1922 Carrier develops a new coolant and a centrifugal refrigerating machine that enables the cooling of public spaces, changing the face of urban architecture.

1939 Carrier invents a system for air conditioning skyscrapers.

1965 Carrier installs ground-based environmental control systems for the Apollo-Saturn V moon program.

1979 UTC acquires Carrier, the world's largest manufacturer of air conditioning and refrigeration equipment.

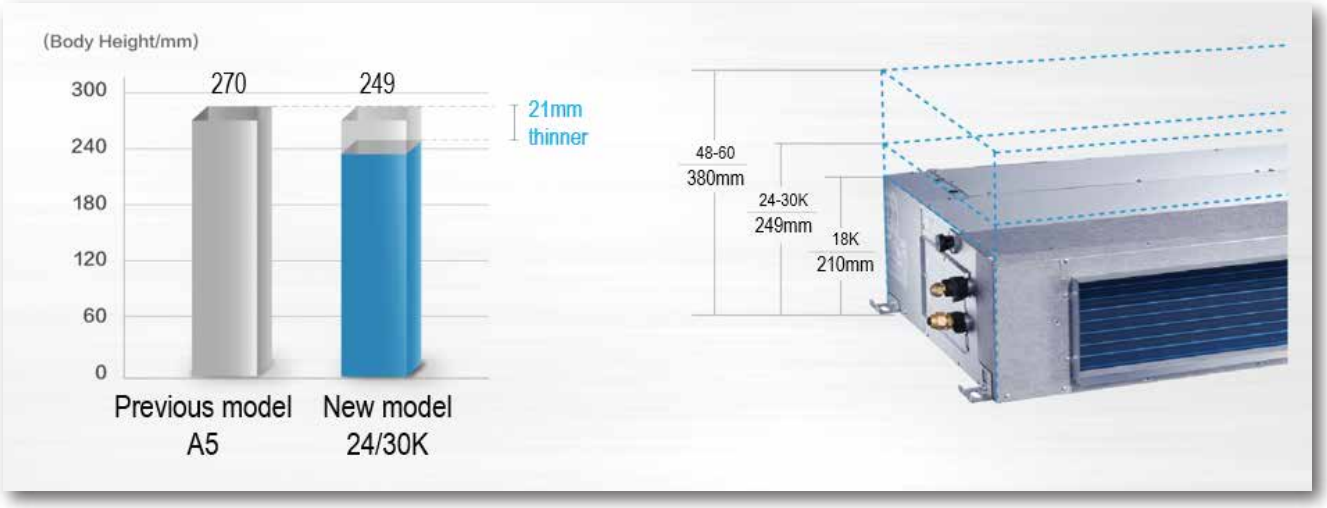
1986 Carrier establishes first of several joint ventures in China.

1998 Carrier introduces its first product line of high efficiency residential air conditioners and heat pumps using the environmentally sound, non-ozone-depleting Puron® refrigerant.

- **1999** Carrier enters into a global joint venture with Toshiba Corp. of Japan, a leader in residential and light commercial air conditioning ventilation equipment and compressors.
- **2004** Carrier acquires Linde AG's commercial refrigeration business and Automated Logic Corp., which installs building automation systems to improve energy efficiency and productivity in buildings.
- **2008** Carrier establishes a joint venture with Midea in China; acquires NORESCO to expand energy solutions capabilities and Maingate building automation company in China Operations.
- **2009** Carrier acquires Sinostride building controls company in China.
- **2010** Carrier Corporation Launches CO_2 product conservation meter.
- **2012** Carrier celebrates 110th Anniversary of invention of modern air conditioning.

Slim design

The industry lowest height is designed to be fitted into tight roof space.



Top middle static-pressure

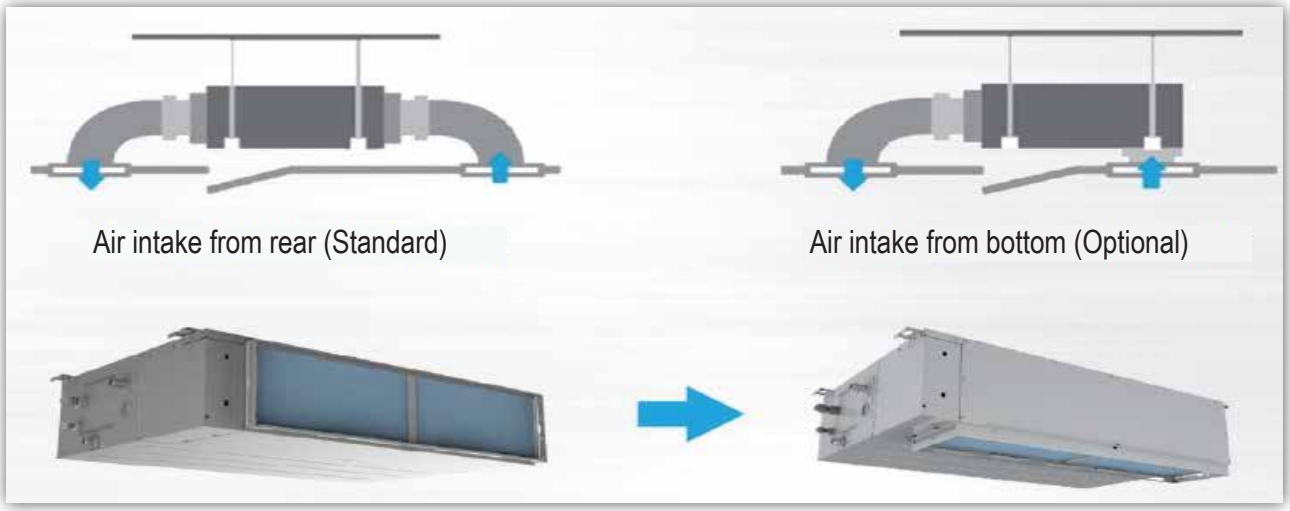
The maximum static pressure reaches 120 Pa. For upto 30k and 200 Pa for 48 & 60k units.
As a ducted air conditioner with medium static pressure, it has the widest static pressure range.

Constant air volume control

For ordinary duct, when the static pressure exceeds the expected range, it is fairly difficult even for an experienced installer to calculate and adjust the air volume precisely. With constant air volume control technology, the duct will automatically adjusts to perfect static pressure and keep constant air volume.

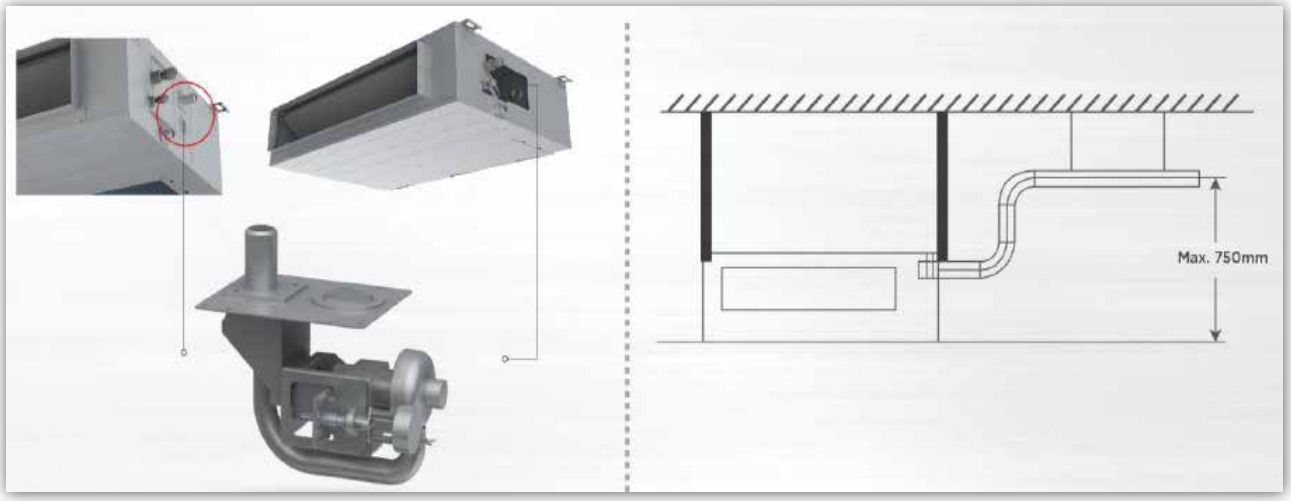
Flexible air intake way

The frame size of air inlet in rear and bottom is the same. It's very easy to switch to match different application.



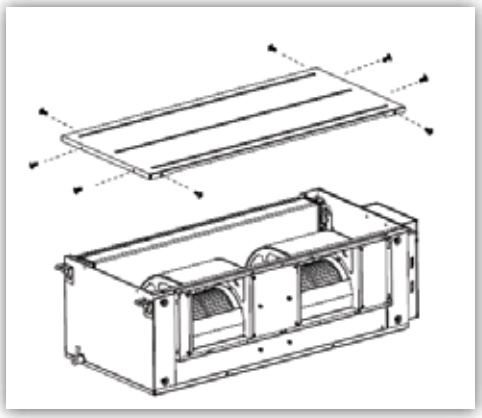
Built-in drain pump (optional)

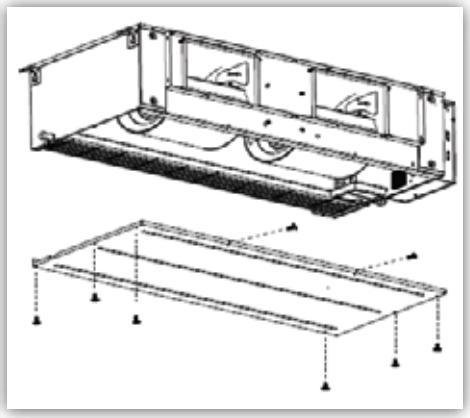
Built-in drain pump can lift the water up to 750mm height, which widens the drainage piping range.



Easy Maintenance

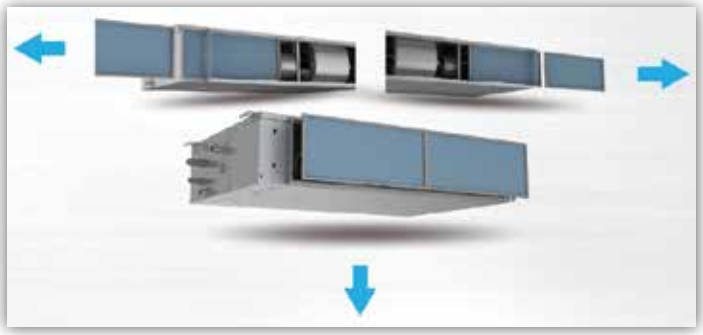
The unit can be opened from top or bottom.. A6 duct allows operators maintenance the motor from the bottom more easily compare with that on the top.





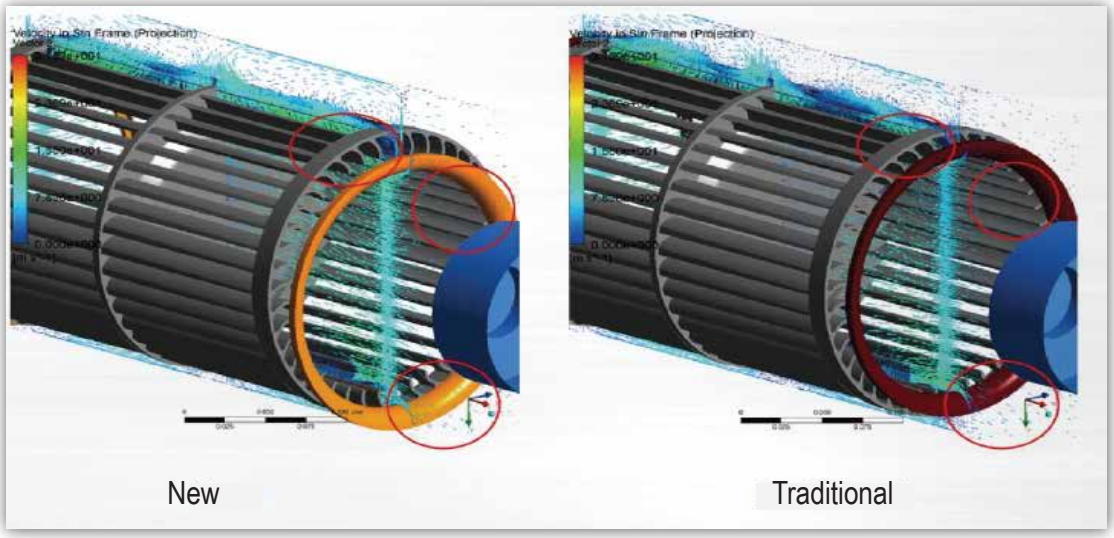
Easy Clean

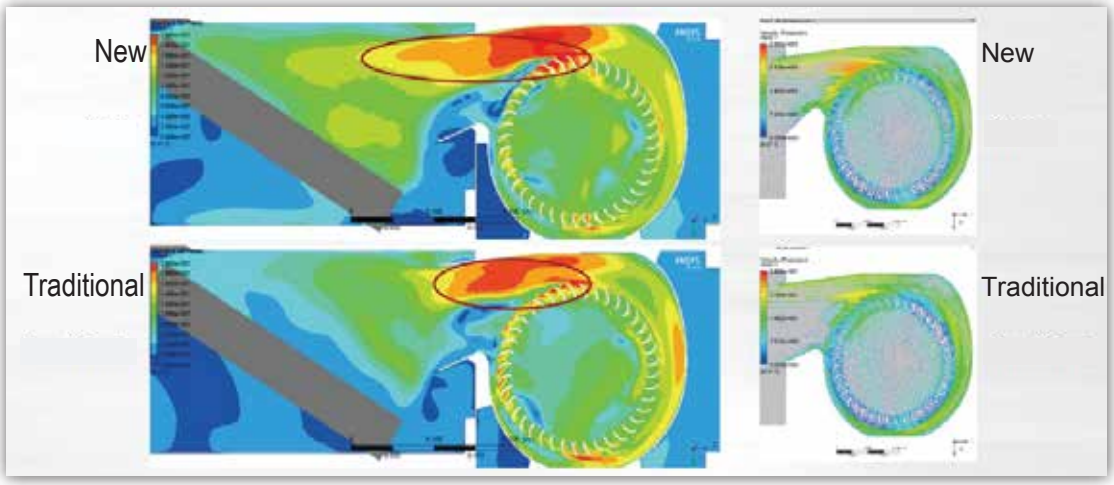
It is easy to draw out the filter from the indoor unit for cleaning. With a larger window design, once the motor and the blower wheels have been detached, heat exchanger and water receiver tray in behind can be seen very clearly. Dust can be easily removed from the inside by vacuum.



Eccentric fan ring design

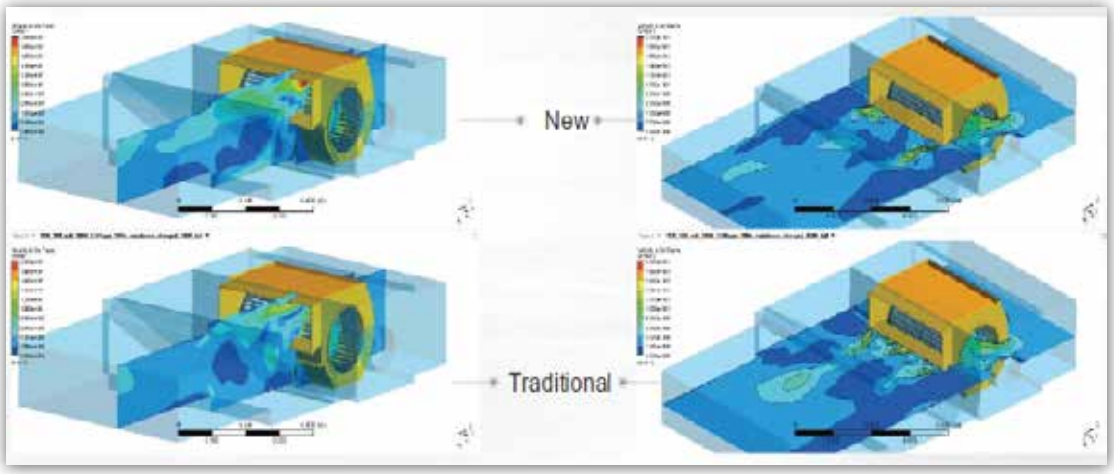
Eccentric fan ring design will improve the air flow on the top, where is more close to the air outlet, and this will improve the performance.





Inclined Volute tongue Design

Inclined volute tongue design helps the air blow more evenly, thus improve the noise level.



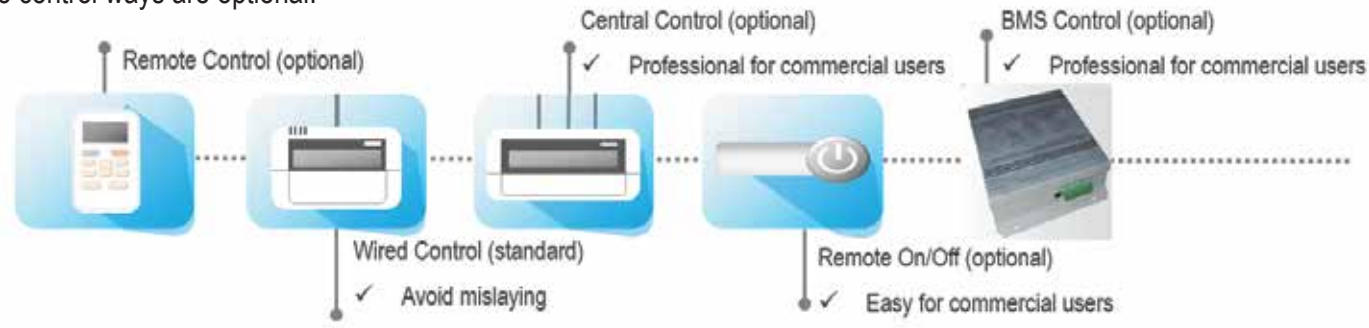
BMS control

Complete control solutions
BMS Gateway.

BMS Gateways are
compatible
to multiple communication
protocol of BACnet,
LonWorks,
Modbus.

Easy Control

• 5 control ways are optional.



INDOOR MODEL			42KSM018HSFN	42KSM024HSFN	42KSM030HSFN
Power supply		V,Hz,Ph	220-240,50,1	220-240,50,1	220-240,50,1
T1 Cooling	Capacity	Btu/h	18000	24000	32000
	Input	W	1550	2035	2750
	EER	W/W	11.601	11.805	11.635
T3 Cooling	Capacity	Btu/h	16000	21000	29300
	Input	W	1850	2450	3280
	EER	W/W	8.632	8.564	8.871
Indoor air flow (Hi/Med/Lo)		m^3/h	1030/880/700	1400/1150/980	2000/1650/1300
ESP	Rated	Pa	25	25	37
	Range	Pa	0-80	0-100	0-100
Indoor noise level (Hi/Med/Lo)		dB(A)	44/41/37	43/41/37	48/43/41
Indoor unit	Dimension (WxDxH)	mm	880x674x210	1100x774x249	1360x774x249
	Packing(WxDxH)	mm	1070x725x270	1305x805x305	1570x805x305
	Net/Gross weight	kg	25.5/31.1	31.2/37.6	41.5/50
Drainage water pipe diameter		mm	ODΦ25	ODΦ25	ODΦ25
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7(1/4"/1/2")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ19(3/8"/3/4")
Controller			Wired control	Wired control	Wired control
Operation temperature		°C	18~30	18~30	18~30
OUTDOOR MODEL			38KSM018HSFN	38KSM024HSFN	38KSM030HSFN
Power supply		V-ph-Hz	220-240-1-50	220-240-1-50	220-240-1-50
Outdoor noise level (sound pressure)		dB(A)	58	60	60
Outdoor unit	Dimension(WxDxH)	mm	845x363x702	946x410x810	946x410x810
	Packing(WxDxH)	mm	965x395x765	1090x500x865	1090x500x865
	Net/Gross weight	kg	49.1/52.4	58.7/64.4	69/75
Refrigerant type/Quantity	Type		R410A	R410A	R410A
	Charged volume	kg	1.90	2.10	3.20
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ12.7(1/4"/1/2")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ19(3/8"/3/4")
	Max. pipe length	m	25	25	25
	Max. difference in level	m	15	15	15
Ambient temperature	Cooling	°C	18-52	18-52	18-52

INDOOR MODEL			42KSM036HSFS	42KSM048HTFS	42KSM060HTM-1
Power supply		V,Hz,Ph	220-240,50,1	380-415V,50,3	380-415V,50,3
T1 Cooling	Capacity	Btu/h	39000	51000	56000
	Input	W	3260	4080	4800
	EER	W/W	11.960	12.500	11.669
T3 Cooling	Capacity	Btu/h	34500	46200	51200
	Input	W	3950	5000	5960
	EER	W/W	8.730	9.240	8.666
Indoor air flow (Hi/Med/Lo)		m^3/h	2200/1900/1450	2833/2377/1964	2966/2555/1954
ESP	Rated	Pa	37	50	50
	Range	Pa	0-120	0-200	0-200
Indoor noise level (Hi/Med/Lo)		dB(A)	48/45/43	52/50/47	53/50/45
Indoor unit	Dimension (WxDxH)	mm	1200x874x300	1200x625x380	1200x625x380
	Packing(WxDxH)	mm	1405x915x355	1485x675x450	1485x675x450
	Net/Gross weight	kg	44.0/53.0	56.5/64.5	56.5/64.5
Drainage water pipe diameter		mm	ODΦ25	ODΦ25	ODΦ25
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.52/Φ19(3/8"/3/4")	Φ9.52/Φ22(3/8"/7/8")	Φ9.52/Φ22(3/8"/7/8")
Controller			Wired control	Wired control	Wired control
Operation temperature		°C	18~30	18~30	18~30
OUTDOOR MODEL			38KSM036HSFS	38KSM048HTFS	38KSM060HTM-1
Power supply		V-ph-Hz	220-240-1-50	380~415-3-50	380~415-3-50
Outdoor noise level (sound pressure)		dB(A)	63	62	62
Outdoor unit	Dimension(WxDxH)	mm	900x350x1170	952x415x1333	952x415x1333
	Packing(WxDxH)	mm	1032x443x1307	1095x495x1480	1095x495x1480
	Net/Gross weight	kg	92.5/104.2	103.4/116.8	112.5/125.6
Refrigerant type/Quantity	Type		R410A	R410A	R410A
	Charged volume	kg	3.90	4.10	4.40
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.52/Φ19(3/8"/3/4")	Φ9.52/Φ22(3/8"/7/8")	Φ9.52/Φ22(3/8"/7/8")
	Max. pipe length	m	30	50	50
	Max. difference in level	m	20	25	25
Ambient temperature	Cooling	°C	18-52	18-52	18-52

Note:
T1: Indoor temperature @ 27° CDB / 19° CWB & outdoor temperature @ 35° CDB
T3: Indoor temperature @ 29° CDB / 19° CWB & outdoor temperature @ 46° CDB

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turn to the experts

R410A

Carrier/01.2018

18K		Outdoor ambient condition						
Indoor Temperature		25℃	30℃	35℃	40℃	46℃	50℃	52℃
21/15℃ DB/WB	Tc(W)	4950	4707	4379	4022	3692	3445	3322
	Sc(W)	3945	3826	3659	3472	3294	3153	3083
	Input(W)	1285	1395	1505	1615	1725	1835	1890
24/17℃ DB/WB	Tc(W)	5306	5069	4783	4478	4185	3933	3807
	Sc(W)	4185	4062	3915	3773	3663	3614	3590
	Input(W)	1286	1405	1525	1644	1763	1882	1942
27/19℃ DB/WB	Tc(W)	5679	5573	5275	4863	4426	4044	3853
	Sc(W)	4535	4439	4270	4065	3857	3681	3593
	Input(W)	1311	1434	1550	1678	1801	1923	1984
29/19℃ DB/WB	Tc(W)	5732	5726	5535	5229	4689	4557	4395
	Sc(W)	4416	4395	4292	4153	4023	3946	3907
	Input(W)	1305	1438	1568	1704	1850	1970	2036
32/23℃ DB/WB	Tc(W)	5785	5878	5795	5594	5333	5069	4937
	Sc(W)	4297	4350	4313	4241	4189	4210	4221
	Input(W)	1298	1442	1585	1729	1873	2016	2088

24K		Outdoor ambient condition						
Indoor Temperature		25℃	30℃	35℃	40℃	46℃	50℃	52℃
21/15℃ DB/WB	Tc(W)	6601	6276	5839	5364	4924	4593	4428
	Sc(W)	5193	5036	4816	4570	4336	4150	4057
	Input(W)	1674	1818	1961	2104	2248	2391	2463
24/17℃ DB/WB	Tc(W)	7076	6760	6378	5972	5580	5245	5078
	Sc(W)	5508	5347	5154	4966	4822	4757	4725
	Input(W)	1676	1831	1987	2142	2298	2453	2531
27/19℃ DB/WB	Tc(W)	7572	7431	7034	6485	5902	5393	5139
	Sc(W)	5969	5842	5621	5351	5077	4844	4728
	Input(W)	1709	1869	2035	2187	2347	2506	2586
29/19℃ DB/WB	Tc(W)	7643	7635	7381	6973	6155	6077	5861
	Sc(W)	5813	5784	5649	5467	5320	5193	5141
	Input(W)	1701	1874	2051	2220	2450	2567	2653
32/23℃ DB/WB	Tc(W)	7714	7838	7727	7460	7112	6760	6584
	Sc(W)	5656	5726	5677	5583	5513	5541	5555
	Input(W)	1692	1879	2066	2253	2440	2627	2721

30K		Outdoor ambient condition						
Indoor Temperature		25℃	30℃	35℃	40℃	46℃	50℃	52℃
21/15℃ DB/WB	Tc(W)	8802	8369	7786	7152	6565	6124	5904
	Sc(W)	7382	7159	6847	6498	6164	5900	5768
	Input(W)	2279	2474	2669	2865	3060	3255	3353
24/17℃ DB/WB	Tc(W)	9435	9013	8505	7963	7441	6993	6769
	Sc(W)	7831	7601	7327	7061	6855	6763	6717
	Input(W)	2282	2493	2705	2917	3128	3340	3446
27/19℃ DB/WB	Tc(W)	10097	9909	9379	8647	7869	7191	6852
	Sc(W)	8487	8306	7992	7607	7218	6887	6722

DB/WB								
	Input(W)	2327	2544	2750	2978	3195	3412	3521
29/19℃ DB/WB	Tc(W)	10192	10180	9841	9297	8587	8102	7815
	Sc(W)	8264	8223	8032	7772	7351	7382	7309
	Input(W)	2316	2551	2782	3023	3280	3495	3613
32/23℃ DB/WB	Tc(W)	10286	10451	10303	9947	9482	9013	8779
	Sc(W)	8041	8140	8071	7937	7838	7877	7897
	Input(W)	2304	2558	2813	3068	3322	3577	3705

36K		Outdoor ambient condition						
Indoor Temperature		25℃	30℃	35℃	40℃	46℃	50℃	52℃
21/15℃ DB/WB	Tc(W)	10726	10199	9488	8716	8001	7464	7196
	Sc(W)	8702	8439	8071	7659	7266	6954	6798
	Input(W)	2702	2933	3165	3396	3627	3859	3975
24/17℃ DB/WB	Tc(W)	11498	10984	10364	9704	9068	8522	8249
	Sc(W)	9231	8960	8637	8323	8080	7971	7917
	Input(W)	2705	2956	3207	3457	3708	3959	4085
27/19℃ DB/WB	Tc(W)	12305	12076	11430	10538	9590	8764	8351
	Sc(W)	10004	9791	9420	8967	8508	8119	7925
	Input(W)	2758	3016	3260	3530	3788	4045	4174
29/19℃ DB/WB	Tc(W)	12420	12406	11993	11330	10111	9874	9525
	Sc(W)	9742	9693	9467	9162	9239	8703	8617
	Input(W)	2745	3025	3298	3583	3950	4143	4282
32/23℃ DB/WB	Tc(W)	12535	12736	12556	12122	11556	10984	10698
	Sc(W)	9479	9595	9514	9356	9239	9286	9310
	Input(W)	2731	3033	3335	3636	3938	4240	4391

48K		Outdoor ambient condition						
Indoor Temperature		25℃	30℃	35℃	40℃	46℃	50℃	52℃
21/15℃ DB/WB	Tc(W)	14027	13337	12408	11397	10462	9760	9409
	Sc(W)	11972	11611	11104	10538	9997	9568	9354
	Input(W)	3381	3671	3961	4250	4540	4829	4974
24/17℃ DB/WB	Tc(W)	15036	14364	13553	12690	11858	11144	10787
	Sc(W)	12700	12328	11883	11451	11117	10967	10892
	Input(W)	3385	3699	4013	4327	4641	4955	5112
27/19℃ DB/WB	Tc(W)	16091	15791	14947	13780	12541	11460	10920
	Sc(W)	13763	13470	12960	12337	11706	11170	10902
	Input(W)	3452	3774	4080	4418	4740	5062	5223
29/19℃ DB/WB	Tc(W)	16242	16223	15684	14816	13540	12912	12455
	Sc(W)	13402	13336	13025	12605	12209	11973	11854
	Input(W)	3435	3785	4127	4485	5000	5185	5360
32/23℃ DB/WB	Tc(W)	16392	16655	16420	15851	15112	14364	13990
	Sc(W)	13041	13201	13090	12872	12712	12775	12807
	Input(W)	3418	3796	4173	4551	4929	5307	5496

60K		Outdoor ambient condition						
Indoor Temperature		25℃	30℃	35℃	40℃	46℃	50℃	52℃

21/15℃ DB/WB	Tc(W)	15678	14906	13868	12739	11694	10909	10517
	Sc(W)	12333	11961	11439	10855	10298	9856	9635
	Input(W)	3978	4319	4659	5000	5341	5681	5851
24/17℃ DB/WB	Tc(W)	16805	16054	15148	14183	13254	12456	12057
	Sc(W)	13082	12699	12241	11796	11452	11298	11221
	Input(W)	3983	4352	4721	5091	5460	5829	6014
27/19℃ DB/WB	Tc(W)	17985	17650	16413	15402	14017	12809	12205
	Sc(W)	14178	13876	13351	12709	12059	11506	11230
	Input(W)	4061	4440	4800	5198	5577	5956	6146
29/19℃ DB/WB	Tc(W)	18153	18133	17383	16560	15006	14432	13921
	Sc(W)	13806	13738	13418	12985	12577	12333	12211
	Input(W)	4041	4453	4855	5276	5960	6100	6230
32/23℃ DB/WB	Tc(W)	18321	18615	18352	17717	16890	16055	15638
	Sc(W)	13434	13599	13484	13260	13095	13160	13193
	Input(W)	4021	4465	4910	5354	6100	6243	6315