



TECHNICAL MANUAL

FAN COIL UNIT (WALL-MOUNTED TYPE) MHW-Q SERIES

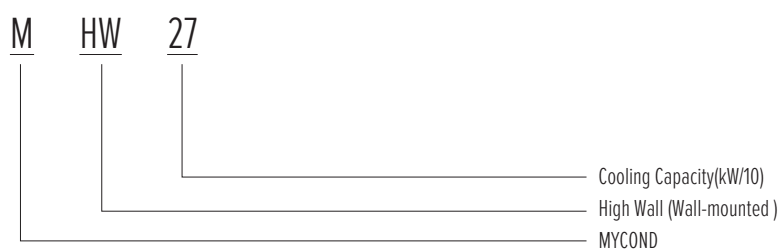
Please read this manual before operating this unit
and keep it securely for future reference.

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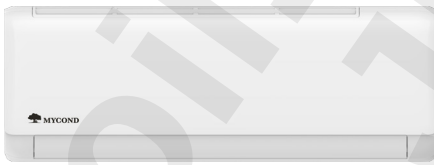
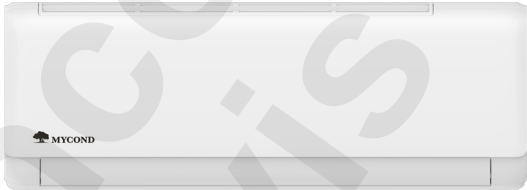
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I. GENERAL DESCRIPTION

1.1. NOMENCLATURE



1.2. UNIT APPEARANCE

Model	Unit Appearance
MC-MHW-Q-27	
MC-MHW-Q-30	
MC-MHW-Q-36	
MC-MHW-Q-45	
MC-MHW-Q-54	

II. UNIT INFORMATION

2.1. FEATURE

The fan coil units mainly consist of centrifugal fan, coil heat exchanger, etc., they are the terminal devices of central air conditioning system, which are widely used in buildings with multi-rooms or industrial and household air conditioning occasions, for example: hotels, restaurants, factories, hospitals, exhibition halls, markets and office buildings, etc. These units can meet many requirements, like cooling, dehumidification and heating, etc., and make a clean, quiet and comfortable working and living environment.

Compared with other types of fan coil units, the wall-mounted type has the following advantages: it can be mounted on any location of indoor wall and will not occupy extra space; it's easy for installation and maintenance, and can perfectly match with indoor decoration.

Application occasions:

Small-size supermarkets, restaurants, office buildings, meeting rooms, villa living rooms and family living rooms, etc., and it is also suitable for old building air conditioning betterment projects, which decreases pipes and saves much cost.

Features:

- It can be mounted on any location of indoor wall and will not occupy extra space, which makes it very suitable for family and public places use;
- Excellent quality: The units adopt superb components to ensure its quality. The strict test during manufacturing process and 100% ex-factory test guarantee the reliable quality.
- Beautiful appearance and low noise: Resin type skin with thin and beautiful appearance; new turbine blade makes operation quiet and with low noise.
- Special heat isolation design, excellent heat isolation effect, and the casing will not get condensing water;
- Long-term air filter adopted, its cleaning period is 1/2 of the normal filter, which make maintenance easier;
- Plastic drip tray, adopts innovative foam-PS combination technology, the plastic surface thickness reaches 1 mm. These features make the drip tray structure firmer and also avoid leakage;
- The unit reserve central control function, which can combine several independent units into a central-controlled system by concentrator.
- Safe and reliable, long-term lifetime: Each fan coil unit is conducted by leakage test with pressure; the inlet/outlet pipes (copper head) adopt forging brass structure to ensure its reliability.
- High EER: The unit design is customized and adopts high efficiency heat exchanger, which makes a perfect combination of large air flow volume, low noise fan and motor, in order to enhance heat transfer ability and make the unit EER more superior.
- The unit reserve auto-restart function;
- The unit adopts brand new diversified micro-pc control system, and with remote controller;
- The unit is equipped with failure auto-check function. If it gets failure, the light will blink and failure code will display on the wired controller, which makes troubleshooting easier.

Function Introduction

Type	Item	MHW					
		18	27	35	45	54	72
Protect	Sensor failure alarm	■	■	■	■	■	■
	Failure code display function	■	■	■	■	■	■
Comfort	Cooling	■	■	■	■	■	■
	Heating	■	■	■	■	■	■
	3-Speed	■	■	■	■	■	■
	Adjustable ESP	—	—	—	—	—	—
	Auto-restart(Optional)	■	■	■	■	■	■
	Timing ON/OFF	■	■	■	■	■	■
Control	Time display	■	■	■	■	■	■
	Operation mode display	■	■	■	■	■	■
	Fan speed display	■	■	■	■	■	■
	Timing ON/OFF display	■	■	■	■	■	■
	Wind angle display	■	■	■	■	■	■
	Sleeping mode display	■	■	■	■	■	■
Operation	Auto operation	■	■	■	■	■	■
	Dehumidification operation	■	■	■	■	■	■
	Ventilation mode	■	■	■	■	■	■
	Long-distance control function	■	■	■	■	■	■
Health	Washable air filter	■	■	■	■	■	■
	Fresh air interface	—	—	—	—	—	—
Installation	Left/right drainage	■	■	■	■	■	■
	Left/right pipe connection	■	■	■	■	■	■
	Down/back air suction	—	—	—	—	—	—
	Installation indicating board	—	—	—	—	—	—

Remarks:

- Stands for “YES”
- Stands for “NO”

2.2. SPECIFICATION

Technical specifications		Units	MC-MHW-Q-27	MC-MHW-Q-30	MC-MHW-Q-36
Air flow rate	Max.	m ³ /h	492	585	825
	High	m ³ /h	404	404	673
	Medium	m ³ /h	358	358	526
	Low	m ³ /h	316	316	448
Cooling capacity	Max.	W	2700	2910	3810
	High	W	2312	2312	3617
	Medium	W	2015	2015	2991
	Low	W	1763	1763	2609
Heating capacity	Max.	W	3500	4070	5418
	High	W	3409	3409	5240
	Medium	W	3003	3003	4628
	Low	W	2761	2761	4014
Power		V/Ph/Hz	220-240/1/50		
Power consumption	Nom.	W	16	22	44
	Max.	W	18	24	48
Fan motor	Model		D-310-30-80A AL		
	Quantity	pcs	1	1	1
	Output power	W	30	30	30
Noise level	Max.	dB(A)	32	32	44
	High	dB(A)	26	26	39
	Medium	dB(A)	24	24	33
Heat exchanger	Number of rows	pcs	2	2	2
	Tube pitch × row pitch	mm	20.5×12.7		
	Fin pitch	mm	1,4		
	Fin material		Hydrophilic aluminum fins		
	Outer tube diameter	mm	ø7, internally grooved tubing		
	Dimensions (L×H×W)	mm	570×327.5×25.4		
Water flow rate		m ³ /h	0,50	0,57	0,77
Water pressure drop		kPa	31,61	37,20	56,75
Max. operating pressure		MPa	1,6		
Water inlet/outlet connection		mm	Rc3/4 (DN15)		
Drain pipe outlet		mm	DN15		
Overall dimensions (W×D×H)		mm	965×325×230		
Packaging dimensions (W×D×H)		mm	1005×362×282		
Net weight		kg	11,5		
Gross weight		kg	14,5		

Technical specifications		Units	MC-MHW-Q-45	MC-MHW-Q-54
Air flow rate	Max.	m ³ /h	862	1020
	High	m ³ /h	653	832
	Medium	m ³ /h	570	710
	Low	m ³ /h	500	580
Cooling capacity	Max.	W	4514	5406
	High	W	4015	4940
	Medium	W	3514	4320
	Low	W	3045	3612
Heating capacity	Max.	W	6767	8155
	High	W	6125	7463
	Medium	W	5269	6577
	Low	W	4592	5542
Power		V/Ph/Hz		
Power consumption	Nom.	W	35	48
	Max.	W	39	53
Fan motor	Model		D-310-50-10A AL	
	Quantity	pcs	1	1
	Output power	W	50	50
Noise level	Max.	dB(A)	38	44
	High	dB(A)	34	42
	Medium	dB(A)	31	36
Heat exchanger	Number of rows	pcs	2	2
	Tube pitch × row pitch	mm	20.5×12.7	
	Fin pitch	mm	1,4	
	Fin material		Hydrophilic aluminum fins	
	Outer tube diameter	mm	ø7, internally grooved tubing	
	Dimensions (L×H×W)	mm	700×366.8×25.4	
Water flow rate		m ³ /h	0,84	0,97
Water pressure drop		kPa	41,20	50,70
Max. operating pressure		MPa	1,6	
Water inlet/outlet connection		mm	Rc3/4 (DN15)	
Drain pipe outlet		mm	DN15	
Overall dimensions (W×D×H)		mm	1089×328×227	
Packaging dimensions (W×D×H)		mm	1155×397×312	
Net weight		kg	13,5	
Gross weight		kg	16,5	

2.3. CAPACITY AMENDMENT

2.3.1. Table of variable working condition performance for cooling capacity

Table of variable working condition performance parameter under cooling mode

Unit: W

Air inlet temperature, °C			26 °C DB/18.7 °C WB						27 °C DB/19 °C WB					
Water inlet temperature, °C			5		7		9		5		7		9	
Model	Water flow, kg/h	Water pressure drop, kPa	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
MC-MHW-Q-27	150	25.1	1822	1595	1612	1491	1386	1297	1868	1677	1698	1582	1426	1376
	250	27	2094	1791	1837	1658	1580	1442	2142	1901	1896	1760	1631	1549
	350	29.2	2485	1946	2199	1785	1891	1553	2565	2027	2270	1877	1975	1671
	450	31.1	2736	1986	2443	1822	2101	1585	2815	2088	2469	1916	2173	1667
MC-MHW-Q-30	300	31.3	2204	1848	1950	1727	1677	1502	2258	2054	2053	1938	1725	1686
	400	33.9	2533	2193	2222	2031	1911	1767	2591	2330	2293	2157	1972	1898
	500	36.1	2973	2360	2631	2165	2263	1884	3069	2459	2716	2277	2363	2027
	600	37.2	3308	2433	2954	2232	2540	1942	3404	2558	2986	2347	2628	2042
MC-MHW-Q-36	430	51	2941	2647	2603	2474	2239	2152	3015	2784	2741	2626	2302	2285
	550	53.5	3380	2971	2965	2751	2550	2393	3458	3156	3060	2922	2632	2571
	650	55.1	3969	3197	3512	2933	3020	2552	4096	3331	3625	3084	3154	2745
	750	56.8	4416	3295	3943	3023	3391	2630	4543	3465	3985	3179	3507	2766
MC-MHW-Q-45	500	20.1	3728	2908	3321	2591	2881	2247	3825	3137	3171	2600	2888	2339
	600	27.3	4101	3076	3654	2740	3169	2377	4250	3443	3562	2886	3209	2567
	700	34	4511	3158	4019	2813	3486	2440	4670	3783	4142	3355	3605	2884
	800	41.5	5007	3155	4461	2944	3869	2554	5189	3650	4552	3650	4006	3165
MC-MHW-Q-54	650	29.6	4335	3554	3866	3170	3319	2722	4452	3651	3905	3202	3437	2818
	750	36.2	4712	3816	4202	3404	3608	2922	4839	3920	4245	3438	3735	3026
	850	43.1	5121	4097	4568	3654	3922	3137	5260	4208	4614	3691	4060	3248
	940	50.7	5567	4453	4965	3972	4263	3410	5717	4459	5015	4096	4413	3222

Table of variable working condition performance parameter under cooling mode (continued)

Unit: W

Air inlet temperature, °C			27 °C DB/19.5 °C WB						28 °C DB/22 °C WB					
Water inlet temperature, °C			5		7		9		5		7		9	
Model	Water flow, kg/h	Water pressure drop, kPa	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
MC-MHW-Q-27	150	25.1	1938	1643	1715	1521	1578	1506	2430	2048	2187	1946	1969	1673
	250	27	2232	1846	1975	1709	1718	1624	2784	2322	2533	2206	2280	1919
	350	29.2	2673	2006	2365	1840	2058	1748	3313	2483	3048	2359	2743	2052
	450	31.1	2911	2066	2599	1878	2261	1765	3618	2595	3292	2387	2930	2101
MC-MHW-Q-30	300	31.3	2344	2013	2074	1864	1908	1845	2939	2509	2674	2384	2407	2050
	400	33.9	2699	2261	2389	2094	2078	1989	3367	2845	3064	2702	2757	2351
	500	36.1	3196	2433	2829	2232	2461	2120	3962	3011	3645	2860	3281	2489
	600	37.2	3520	2485	3143	2301	2734	2163	4375	3180	3894	2798	3465	2462
MC-MHW-Q-36	430	51	3129	2727	2769	2525	2547	2500	3923	3399	3530	3229	3177	2777
	550	53.5	3603	3063	3188	2836	2774	2695	4493	3853	4089	3661	3680	3185
	650	55.1	4266	3296	3776	3023	3285	2872	5288	4079	4865	3875	4379	3371
	750	56.8	4698	3429	4195	3117	3650	2930	5839	4307	5314	3963	4729	3487
MC-MHW-Q-45	500	20.1	3714	2799	2878	2244	2846	2167	4209	3365	3887	3129	3295	2653
	600	27.3	4159	2995	3510	2703	3234	2343	4838	3618	4468	3365	3788	2852
	700	34	4742	3082	4081	3020	3638	2546	5498	3849	5077	3580	4304	3034
	800	41.5	5121	3581	4638	3354	4042	2985	6248	3653	5705	3455	4891	3075
MC-MHW-Q-54	650	29.6	4677	3040	4045	2985	3613	2529	5438	3806	5062	3543	4275	2993
	750	36.2	5098	3212	4429	3691	3920	2548	6036	4225	5669	3685	4874	3217
	850	43.1	5506	3414	4872	3748	4351	2828	6760	4664	6236	3991	5605	3531
	940	50.7	6057	3816	5408	3970	4786	3207	7571	5148	6922	4292	6165	3822

2.3.2. Table of variable working condition performance for heating capacity

Table of variable working condition performance parameter under heating mode

Unit: W

Air inlet temperature, °C			18 °C DB						20 °C DB					
Water inlet temperature, °C			40	45	50	60	70	80	40	45	50	60	70	80
Model	Water flow, kg/h	Water pressure drop, kPa												
MC-MHW-Q-27	150	25.1	1887	2322	2757	3628	4499	5369	1730	2180	2595	3460	4325	5190
	250	27	2031	2499	2968	3905	4842	5779	1861	2308	2792	3722	4653	5583
	350	29.2	2213	2723	3234	4255	5276	6297	2029	2516	3044	4058	5073	6087
	450	31.1	2329	2911	3404	4479	5554	6629	2136	2648	3203	4271	5339	6407
MC-MHW-Q-30	300	31.3	2152	2649	3146	4139	5132	6126	1974	2487	2961	3948	4935	5922
	400	33.9	2310	2843	3376	4442	5508	6574	2098	2601	3146	4195	5244	6293
	500	36.1	2494	3069	3645	4796	5947	7098	2287	2836	3431	4574	5718	6861
	600	37.2	2625	3281	3836	5048	6260	7471	2407	2985	3611	4814	6018	7221
MC-MHW-Q-36	430	51	2955	3637	4319	5683	7047	8411	2710	3415	4065	5420	6775	8130
	550	53.5	3142	3867	4592	6042	7492	8942	2880	3571	4320	5760	7200	8640
	650	55.1	3351	4125	4898	6445	7992	9539	3074	3811	4610	6147	7684	9221
	750	56.8	3604	4505	5267	6930	8593	10256	3305	4098	4958	6610	8263	9915
MC-MHW-Q-45	500	20.1	3770	4611	5471	7035	8626	9951	3453	4260	5161	6934	8533	9983
	600	27.3	3965	4864	5759	7413	9099	10486	3627	4489	5427	7267	8992	10609
	700	34	4169	5131	6062	7812	9598	11049	3810	4730	5707	7615	9475	11274
	800	41.5	4384	5412	6381	8231	10125	11643	4002	4984	6001	7981	9984	11981
MC-MHW-Q-54	650	29.6	4028	4967	5871	7574	9294	11067	3661	4676	5507	7250	9077	10762
	750	36.2	4281	5273	6239	8048	9898	11783	3895	4933	5852	7721	9661	11437
	850	43.1	4549	5609	6630	8553	10541	12546	4143	5204	6219	8222	10284	12154
	940	50.7	4834	5961	7046	9089	11225	13358	4408	5489	6609	8757	10946	12916

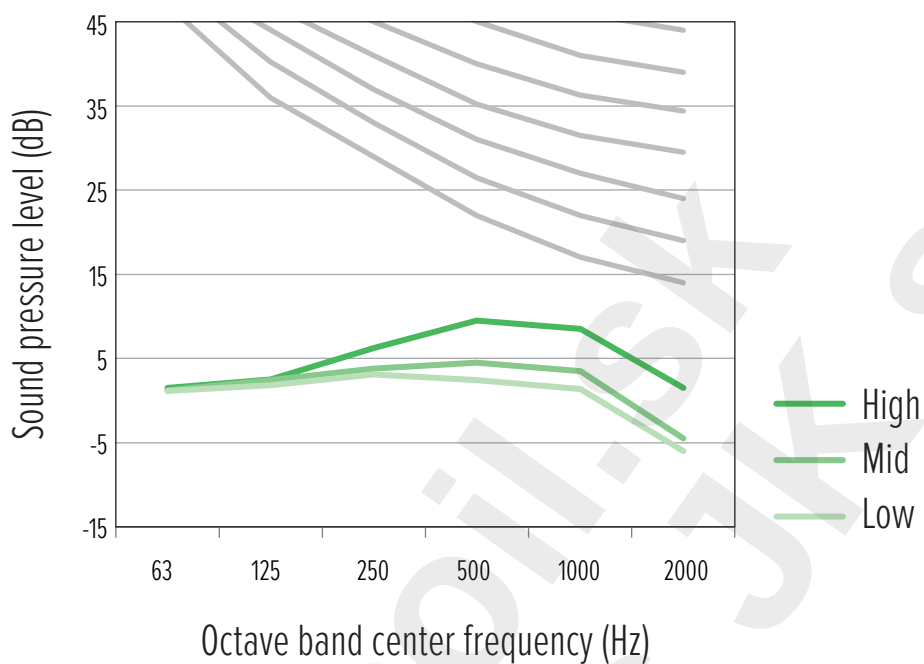
Table of variable working condition performance parameter under heating mode (continued)

Unit: W

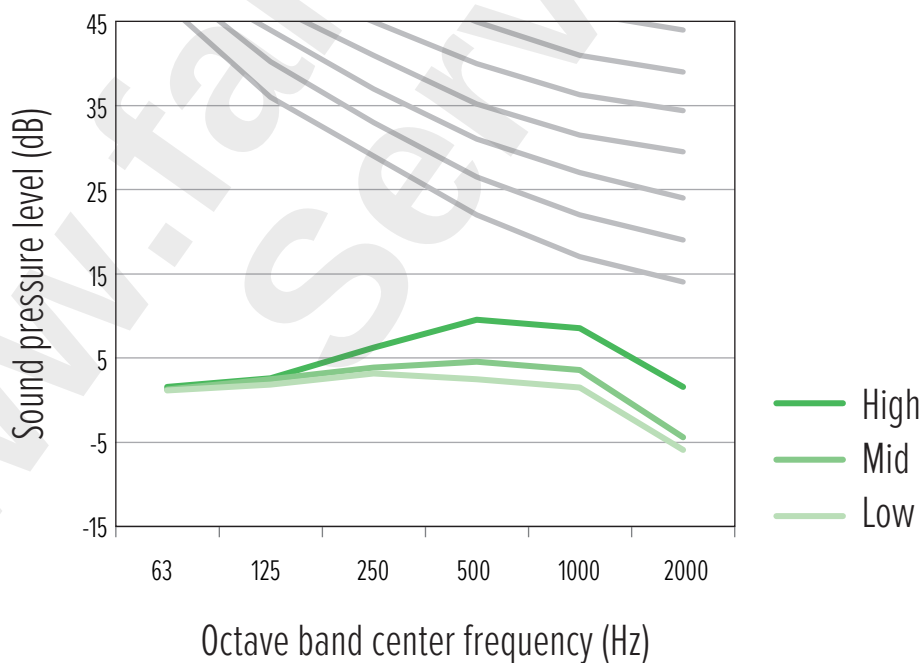
Air inlet temperature, °C			21 °C DB						22 DB					
Water inlet temperature, °C			40	45	50	60	70	80	40	45	50	60	70	80
Model	Water flow, kg/h	Water pressure drop, kPa												
MC-MHW-Q-27	150	25.1	1646	2049	2486	3359	4232	5072	1531	1955	2411	3258	4105	4953
	250	27	1788	2263	2701	3649	4562	5511	1664	2159	2620	3540	4496	5416
	350	29.2	1930	2443	2915	3940	4964	5949	1815	2317	2857	3861	4865	5907
	450	31.1	2032	2571	3110	4147	5225	6262	1891	2454	2977	4023	5068	6155
MC-MHW-Q-30	300	31.3	1878	2338	2836	3833	4829	5787	1747	2231	2751	3718	4684	5651
	400	33.9	2015	2550	3044	4113	5141	6211	1875	2434	2952	3990	5067	6104
	500	36.1	2176	2753	3286	4440	5595	6705	2045	2611	3220	4351	5483	6658
	600	37.2	2290	2898	3459	4674	5889	7058	2131	2766	3355	4534	5713	6937
MC-MHW-Q-36	430	51	2578	3210	3894	5262	6630	7946	2399	3062	3777	5104	6431	7758
	550	53.5	2767	3501	4179	5647	7059	8527	2574	3341	4053	5478	6956	8381
	650	55.1	2924	3700	4416	5968	7519	9011	2749	3509	4328	5848	7369	8948
	750	56.8	3144	3979	4813	6417	8085	9690	2926	3797	4606	6224	7843	9523
MC-MHW-Q-45	500	20.1	3086	3858	4483	5656	7705	9246	2892	3803	4699	6370	8001	9688
	600	27.3	3283	4104	4821	6285	8110	9732	3080	4008	4931	6692	8423	10196
	700	34	3493	4366	5184	6758	8537	10244	3280	4223	5174	7029	8866	10730
	800	41.5	3716	4645	5574	7189	8986	10784	3493	4450	5429	7383	9332	11292
MC-MHW-Q-54	650	29.6	3506	4371	5184	6818	8590	10244	3319	4190	5075	6888	8713	10874
	750	36.2	3722	4650	5544	7245	9129	10921	3527	4457	5396	7335	9274	11581
	850	43.1	3951	4947	5930	7699	9701	11643	3748	4740	5738	7812	9871	12333
	940	50.7	4195	5263	6342	8182	10309	12412	3983	5042	6101	8319	10507	13134

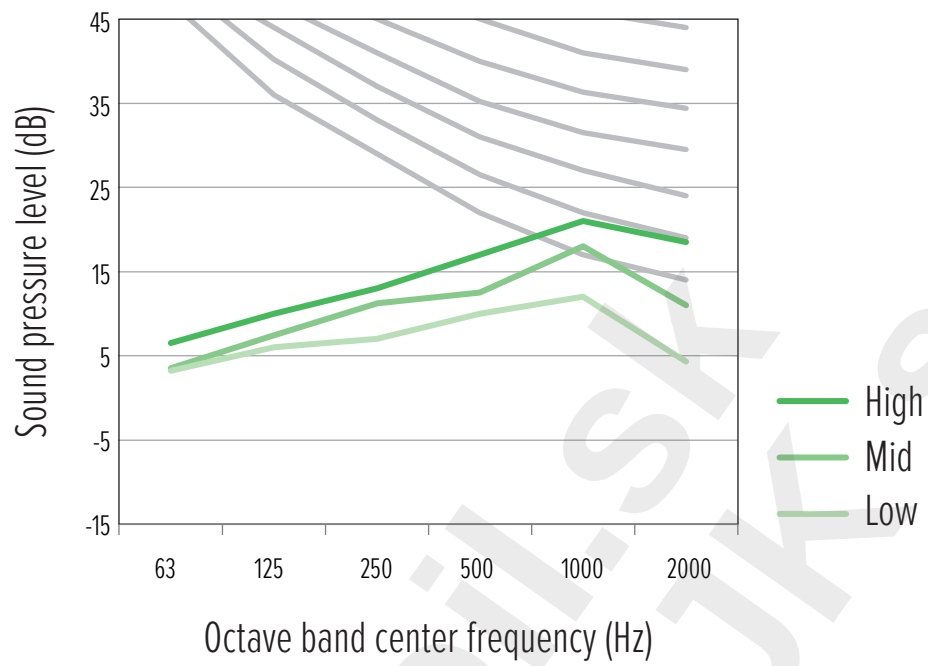
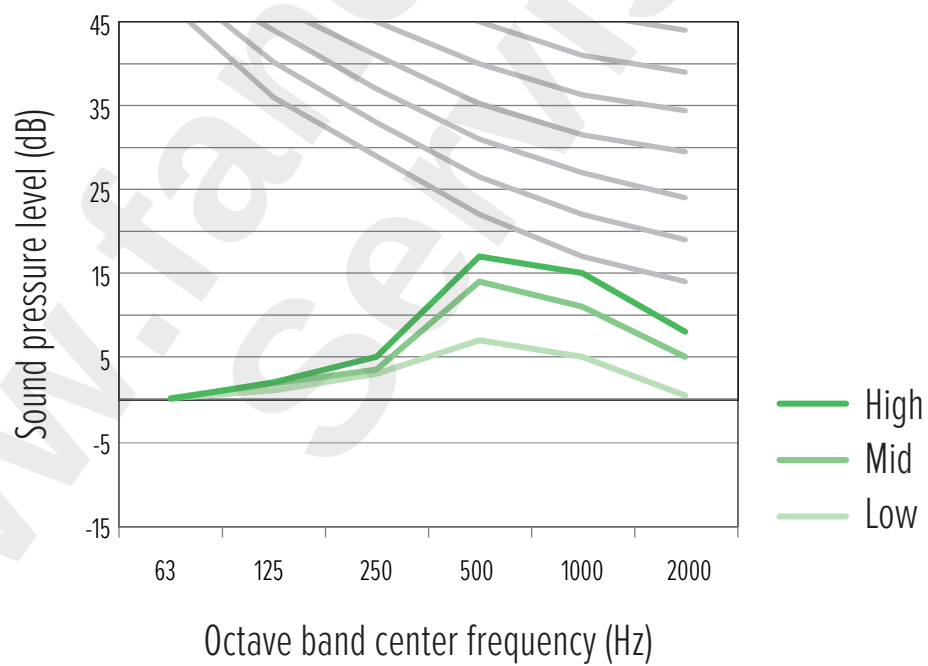
2.4. NC CURVES

MC-MHW-Q-27

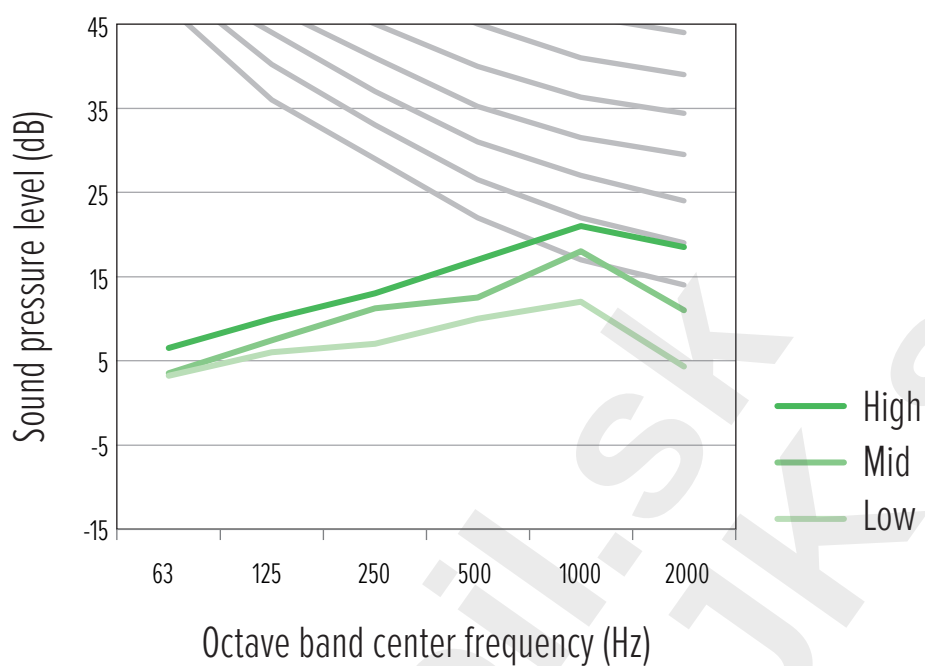


MC-MHW-Q-30

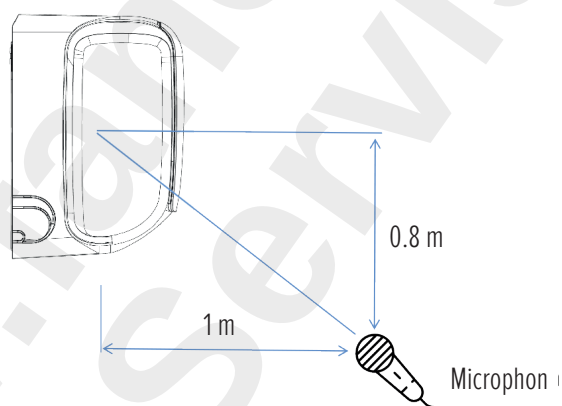


MC-MHW-Q-36**MC-MHW-Q-45**

MC-MHW-Q-54



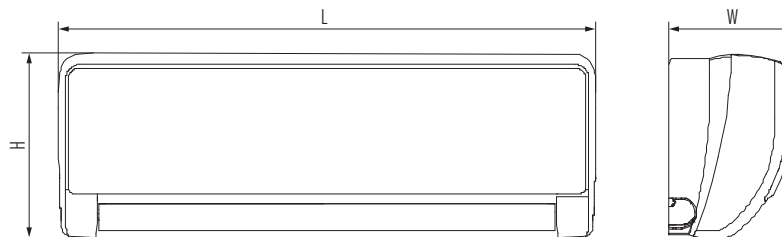
2.5. SOUND PRESSURE LEVEL



Note: No requirement for distance from the ground

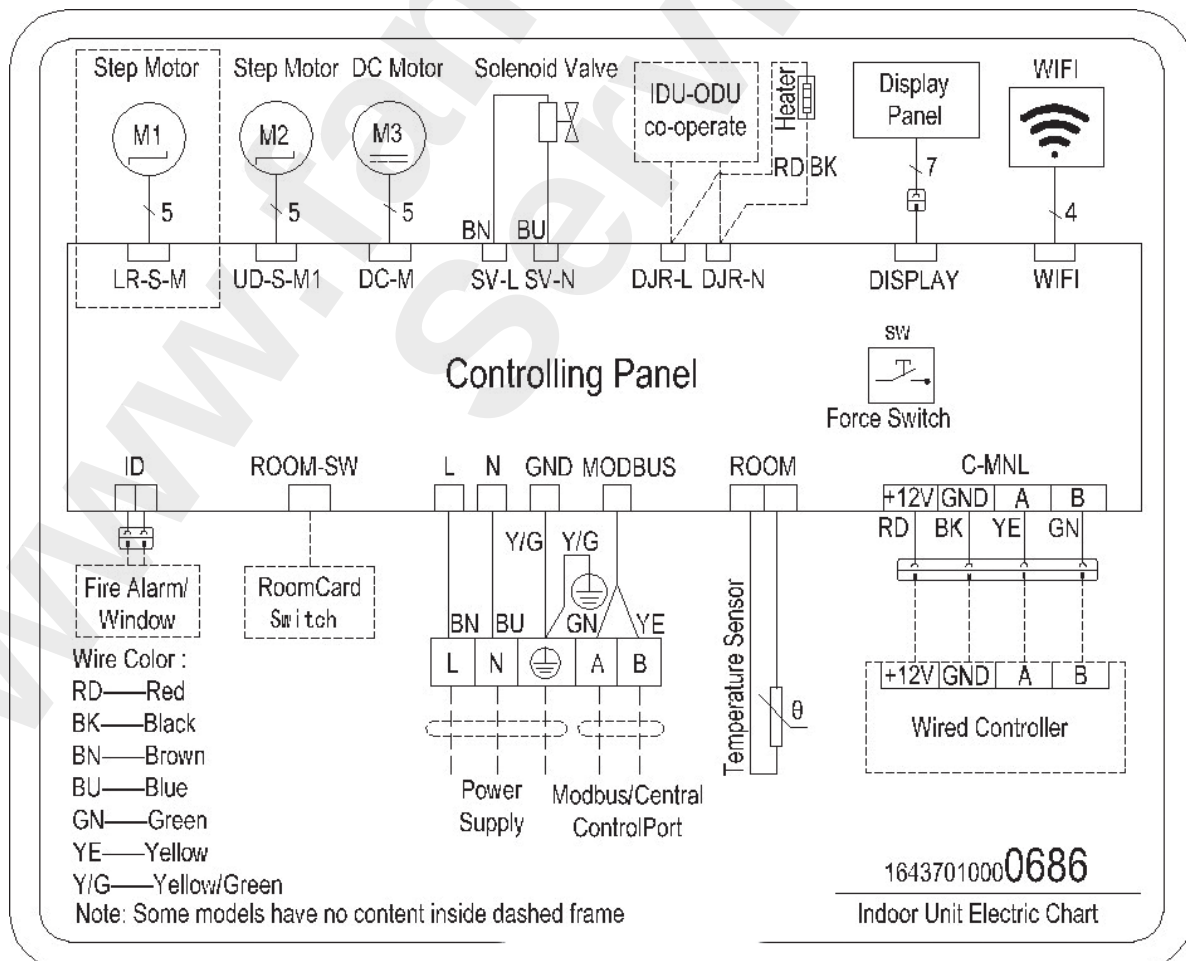
Models	Sound pressure level, dB(A)		
	H	M	L
MC-MHW-Q-27	32	26	24
MC-MHW-Q-30	32	26	24
MC-MHW-Q-36	44	39	33
MC-MHW-Q-45	38	34	31
MC-MHW-Q-54	44	42	36

2.6. DEMENSION



Model	L	H	W
MC-MHW-Q-27	965	325	230
MC-MHW-Q-30	965	325	230
MC-MHW-Q-36	965	325	230
MC-MHW-Q-45	1089	328	227
MC-MHW-Q-54	1089	328	227

III. ELECTRICAL WIRING AND CONNECTION



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