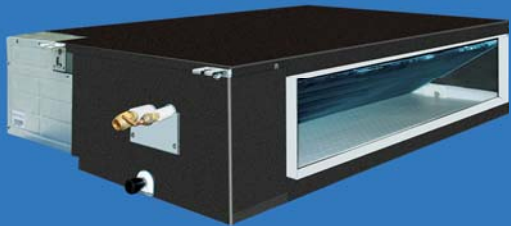




EDC/ESC

ESMA HIEER SERIES



PRODUCT CATALOGUE



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Introduction

These concealed Ductable Split Indoor & Outdoor units have been developed & produced to provide not only the ultimate indoor comfort, but also to guarantee long & trouble free operations.

Herein lies the reason for the choice of only the highest quality components and design strategies to meet the most important objectives such as:

- EFFICIENCY
- RELIABILITY
- FLEXIBILITY
- EASY INSTALLABILITY
- SERVICEABILITY
- AFFORDABILITY

CONCEALED DUCTABLE SPLIT SYSTEM
CAPACITY 18,000 – 60,000 BTU/HR

Salient Features

SALIENT FEATURES: INDOOR SPLIT UNITS

The EDC & ESC series units are the new range of Concealed ductable split units with compact design, suitable for Horizontal installation in most standard drop ceiling application, having flexibility in installation & low labour cost.

The Concealed ductable Indoor split units are designed by latest fan coil technology, highly efficient in performance and ideal for both commercial and residential application with whisper quiet operation.

The EDC & ESC series units are Leak tested by electronic machines, piped, internally wired and having holding charge of refrigerant R410A.

These EDC & ESC units (1.5TR - 5TR capacities) are available in 220 ~ 240 Volts / 1 Phase / 50 Hz power supply with 240 volts control circuit as standard.

The Indoor split units are made from high quality Galvanized steel for high reliability and long period of operation. The coils are made of seamless inner grooved copper tube / Corrugated Aluminum fin.

The EDC & ESC units are designed with advanced refrigerant circuitry keeping in mind for the minimum pressure drop for best output.

EDC / ESC units are insulated through 5mm insulation & evaporator is fully covered with drain pan. These EDC & ESC units are completely factory wired with single point power input provided with knockouts for utility, main power supply and control connections.

The EDC & ESC units are fitted with 3mm washable filters to restrict dust particles to enter inside the indoor unit as well as the cooling space. Automatically Dehumidifies the room efficiently without lowering the required temperature.

The EDC & ESC units are provided wired controller with LCD display & also having LCD remote hand set.

The EDC / ESC (18 / 24 / 30 / 36 / 42K) units are with high efficient DC motor & ESC (48 / 60K) models have permanent split capacitor motor (PSC) having compact design, consist of inbuilt permanently lubricated bearing & inbuilt thermal overload protector (OLP).

EDC / ESC units (30 / 36 / 42K) provide with double inlet plastic blower & EDC/ESC units (18/24/48/60k) are provided with double inlet metal blower.

SALIENT FEATURES: OUTDOOR SPLIT UNITS

The outdoor units are the new range of Outdoor split units, suitable for side and up flow installation on the roof or on the ground.

The outdoor split models are available in different voltage with 220 ~ 240 volts single phase & 380 ~ 420 volts 3 phase.

These Outdoor units are designed & tested in accordance with ISO13253 standard.

The units are Leak tested with electronic machines, piped, internally wired and fully charged with refrigerant (Mentioned in technical specifications).

The Outdoor units are made from high quality Galvanized, weather resistant steel and wherever necessary powder coated for lasting protection and durability.

Compressors are fully hermetic type designed for high efficiency and provided with inbuilt thermal overload protector.

The outdoor units (above 30K) are provided with contactors to avoid load on PCB during compressor function.

Condenser coils are made of seamless inner grooved copper tube and aluminum corrugated fins mechanically bonded for maximum heat transfer. The Coils are factory tested for leaks at 550psig pressure. Condenser coils are designed to have minimum pressure drop for refrigerant flow to get best output.

The units are equipped with Efficient and dependable metering of the refrigerant is provided by Capillary Tube, a device which improves overall system reliability and is easily accessible for routine maintenance.

Easy accessible control box.

Higher capacity units (above 36K) are provided with Low pressure control, High pressure control switch to safeguard compressor.

All models are provided with built in 3 minutes Time delay for safe operation of the compressor.

These outdoor units are provided with plastic mesh to safeguard & avoid access of condenser.

The outdoor units are provided with Plastic direct drive axial fan which is designed aerodynamically for efficient air flow.

The outdoor units (18 / 24 / 30 / 36 / 42 K) motors are provided with inbuilt permanent lubricated bearing & inbuilt thermal overload protector (OLP) 48/60K unit provided with DC motor.

UNIT SPECIFICATIONS ENGINEERING SPECIFICATIONS: INDOOR & OUTDOOR

Models - Ducted with Side Discharge Condenser		Indoor Unit	EDC			ESC					
			18	24	30	36	42	48	60		
		Outdoor Unit	CST			CSS					
			18	24	30	36	42	48	60		
Nominal Capacities	Cooling @ 35°C	Btu/h	18,000	23,200	29,500	34,700	41,250	46,400	54,000		
Power Consumption		Watts	1550	1950	2450	3015	3570	4030	4610		
Running Current		Amps	6.85	8.62	10.83	13.32	5.84	6.59	7.54		
EER		Btu/hr/W	11.613	11.897	12.041	11.509	11.555	11.514	11.714		
Nominal Capacities	Cooling @ 46°C	Btu/h	16,100	20,000	25,925	31,500	37,800	41,500	48,500		
Power Consumption		Watts	1920	2300	2795	3780	4400	4950	5650		
Running Current		Amps	8.48	10.16	12.35	16.70	7.19	8.09	9.24		
EER		Btu/hr/W	8.385	8.696	9.275	8.333	8.591	8.384	8.584		
Refrigerant Type		R-410A									
Power Supply		V/Ph/Hz	230/1/50								
Indoor Unit	Fan	Fan Type	Double inlet Double width								
		Air flow Rate	m3/h	995	1325	1655	1985	2320	2650	3315	
		Input Power	W	80	100	155	165	180	450	500	
		Fan Motor Protection	Auto Reset Thermal Overload								
		Sound Pressure (H/M/L)	dBA	46/42/39	47/43/41	49/44/42	50/48/46	52/49/47	53/51/48	55/51/49	
Coil	Tube	Material	Inner Groove Copper Tube								
		Diameter	mm	7.94	7.94	7.94	7.94	7.94	9.52	9.52	
	Fin	Material	Aluminum								
		No. of Rows		3	3	4	4	4	4	4	
	Fin per inch		17	17	17	17	17	17	17		
Coil Area		Sqm	0.28	0.28	0.41	0.41	0.41	0.54	0.54		
Unit Dimensions	Height	mm	260	260	307	307	307	441	441		
	Width		1,190	1,190	1,279	1,279	1,279	1,536	1,536		
	Depth		643	643	830	830	830	867	867		
Net Weight		kg	32	32	47	47	49	76	76		
System Operation Control		Wired controller with remote									
Condensate Drainage (O.D.)		mm	25								
Air Filter		Synthetic, Washable									
Power Supply		V/Ph/Hz	230/1/50				400/3/50				
Air Discharge		Type	Side								
Outdoor Unit	Compressor	Quantity	1	1	1	1	1	1	1		
		Compressor Type	Rotary			Scroll					
		Vibration Isolator	Rubber mount								
		Protection Device	Auto Reset Thermal Overload								
	Fan	Quantity	1	1	1	1	2	2	2		
Fan / Type Drive		Propeller/Direct Drive									
Fan Speed		rpm	900	870	870	870	870	870	850		
Blade Material		Plastic									
Coil	Type	Construction	Fin Tube construction								
		Material	Inner groove copper tube								
	Rows deep	Fin	Aluminum								
		Nos	3	3	3	3	3	3	3		
Coil Area		Sqm	0.49	0.76	0.76	0.76	1.29	1.29	1.29		
Dimensions	Height	mm	650	790	790	790	1320	1320	1320		
	Width		870	1000	1000	1000	1000	1000	1000		
	Depth		320	415	415	415	415	415	415		
Weight		kg	61	68	70	71	107	111	116		
Piping	Type		Flare + Nuts								
	Pipe Size	Suction	inch	1/2	5/8	5/8	5/8	3/4	3/4	3/4	
		Liquid		1/4	1/4	3/8	3/8	3/8	1/2	1/2	
Laodability	Container Size		20	52	34	28	28	22	14	14	
	40 FT		104	72	60	60	44	30	30		
	40 HC		120	86	70	70	48	39	39		

- ▶ T1 : Nominal Cooling Capacity is based on 80.6°F (27°C) dry bulb, 66.2°F (19°C) wet bulb indoor conditions and 95°F (35°C) dry bulb ambient outdoor temperature at high speed.
- ▶ T3 : Cooling Capacity is based on 84.6°F (29°C) dry bulb, 66.2°F (19°C) wet bulb indoor conditions and 115°F (46°C) dry bulb ambient outdoor temperature at high speed.
- ▶ Specifications are subjected to change without notice in accordance with our policy of continuous research and product development
- ▶ Noise test data is @ 1 meters distance, as per factory test standard

ESMA-HIEER SERIES-DUCTED PRODUCT DATA BOOK

DUCTED SPLIT UNITS (COOL) - QUICK SELECTION CHART - R410A - 50HZ

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Total Capacity BTUH								
EDC 18	95	76/63	16556	16074	15753	15232	14788	14492	14013	13605	13333
	95	80/67	18837	18288	17922	17330	16825	16488	15943	15479	15169
	95	80.6/62.6	17613	17100	16758	16204	15732	15417	14908	14473	14184
	95	80.6/66.2	18540	18000	17640	17057	16560	16229	15692	15235	14930
	95	84.2/66.2	18725	18180	17816	17227	16726	16391	15849	15388	15080
	105	76/63	15646	15190	14886	14394	13975	13695	13242	12857	12600
	105	80/67	17989	17465	17116	16550	16068	15746	15226	14782	14487
	105	80.6/62.6	16644	16160	15836	15313	14867	14569	14088	13677	13404
	105	80.6/66.2	17474	16965	16626	16076	15608	15296	14790	14359	14072
	105	84.2/66.2	17654	17140	16797	16242	15769	15453	14943	14507	14217
	115	76/63	14735	14306	14020	13556	13161	12898	12472	12108	11866
	115	80/67	17141	16642	16309	15770	15311	15004	14508	14086	13804
	115	80.6/62.6	15676	15219	14915	14422	14001	13721	13268	12881	12624
	115	80.6/66.2	16408	15930	15611	15095	14656	14362	13888	13483	13213
	115	84.2/66.2	16583	16100	15778	15256	14812	14516	14036	13627	13354
	125	76/63	13079	12698	12444	12033	11683	11449	11070	10748	10533
	125	80/67	15295	14850	14553	14072	13662	13389	12946	12569	12318
	125	80.6/62.6	13756	13355	13088	12655	12287	12041	11643	11304	11078
	125	80.6/66.2	14461	14040	13759	13304	12917	12658	12240	11883	11646
	125	84.2/66.2	14980	14544	14253	13782	13380	13113	12679	12310	12064

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Sensible Capacity BTUH								
EDC 18	95	76/63	14735	14306	14020	13556	13161	12898	12472	12108	11866
	95	80/67	15678	15221	14917	14423	14003	13723	13270	12883	12625
	95	80.6/62.6	14971	14484	14244	13773	13325	13105	12671	12259	12056
	95	80.6/66.2	15221	14778	14482	14004	13596	13324	12883	12508	12258
	95	84.2/66.2	15374	14926	14627	14144	13732	13457	13012	12633	12381
	105	76/63	12470	12106	11864	11472	11138	10915	10554	10247	10042
	105	80/67	17296	16793	16457	15913	15449	15140	14640	14213	13929
	105	80.6/62.6	15979	15513	15203	14700	14272	13987	13524	13130	12868
	105	80.6/66.2	16985	16490	16160	15626	15171	14867	14376	13957	13678
	105	84.2/66.2	17160	16660	16327	15787	15327	15021	14524	14101	13819
	115	76/63	13114	12732	12478	12065	11714	11479	11100	10777	10561
	115	80/67	15924	15460	15151	14650	14224	13939	13478	13086	12824
	115	80.6/62.6	12885	12510	12260	11854	11509	11279	10906	10588	10377
	115	80.6/66.2	14521	14098	13816	13359	12970	12711	12291	11933	11694
	115	84.2/66.2	14811	14380	14092	13626	13229	12965	12536	12171	11928
	125	76/63	9221	8952	8773	8483	8236	8071	7805	7577	7426
	125	80/67	11854	11509	11278	10906	10588	10376	10033	9741	9546
	125	80.6/62.6	10454	10150	9947	9618	9338	9151	8849	8591	8419
	125	80.6/66.2	11424	11092	10870	10510	10204	10000	9670	9388	9200
	125	84.2/66.2	11984	11635	11402	11026	10704	10490	10143	9848	9651

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Power Input (kW)								
EDC 18	95	76/63	1.476	1.459	1.447	1.435	1.418	1.406	1.395	1.378	1.367
	95	80/67	1.592	1.573	1.561	1.548	1.529	1.517	1.504	1.486	1.474
	95	80.6/62.6	1.465	1.448	1.436	1.424	1.407	1.396	1.384	1.368	1.357
	95	80.6/66.2	1.569	1.550	1.538	1.525	1.507	1.495	1.482	1.464	1.453
	95	84.2/66.2	1.569	1.550	1.538	1.525	1.507	1.495	1.482	1.464	1.453
	105	76/63	1.652	1.633	1.620	1.606	1.587	1.574	1.561	1.542	1.530
	105	80/67	1.782	1.761	1.747	1.732	1.712	1.698	1.684	1.664	1.650
	105	80.6/62.6	1.639	1.620	1.607	1.593	1.574	1.562	1.548	1.530	1.518
	105	80.6/66.2	1.756	1.735	1.721	1.707	1.686	1.673	1.659	1.639	1.626
	105	84.2/66.2	1.756	1.735	1.721	1.707	1.686	1.673	1.659	1.639	1.626
	115	76/63	1.828	1.807	1.792	1.777	1.756	1.742	1.727	1.707	1.693
	115	80/67	1.972	1.949	1.933	1.917	1.894	1.879	1.863	1.841	1.826
	115	80.6/62.6	1.813	1.791	1.777	1.762	1.741	1.727	1.713	1.692	1.679
	115	80.6/66.2	1.943	1.920	1.905	1.889	1.866	1.851	1.836	1.814	1.799
	115	84.2/66.2	1.943	1.920	1.905	1.889	1.866	1.851	1.836	1.814	1.799
	125	76/63	1.920	1.897	1.882	1.866	1.844	1.829	1.814	1.792	1.778
	125	80/67	2.069	2.045	2.028	2.011	1.988	1.972	1.955	1.932	1.916
	125	80.6/62.6	1.904	1.882	1.867	1.851	1.829	1.814	1.799	1.778	1.763
	125	80.6/66.2	2.040	2.016	2.000	1.983	1.960	1.944	1.928	1.905	1.889
	125	84.2/66.2	2.040	2.016	2.000	1.983	1.960	1.944	1.928	1.905	1.889

Fan Speed			High			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	EER								
EDC 18	95	76/63	11.217	11.021	10.887	10.616	10.431	10.305	10.049	9.873	9.753
	95	80/67	11.831	11.624	11.484	11.198	11.002	10.869	10.599	10.414	10.288
	95	80.6/62.6	12.022	11.812	11.669	11.379	11.180	11.045	10.770	10.582	10.454
	95	80.6/66.2	11.819	11.613	11.472	11.187	10.992	10.859	10.589	10.404	10.278
	95	84.2/66.2	11.938	11.729	11.587	11.299	11.102	10.967	10.695	10.508	10.381
	105	76/63	9.469	9.304	9.191	8.963	8.806	8.700	8.483	8.335	8.234
	105	80/67	10.094	9.918	9.798	9.554	9.387	9.273	9.043	8.885	8.777
	105	80.6/62.6	10.155	9.978	9.857	9.612	9.444	9.330	9.098	8.939	8.831
	105	80.6/66.2	9.952	9.778	9.660	9.420	9.255	9.143	8.916	8.760	8.654
	105	84.2/66.2	10.055	9.879	9.759	9.517	9.350	9.237	9.008	8.850	8.743
	115	76/63	8.059	7.918	7.822	7.628	7.495	7.404	7.220	7.094	7.008
	115	80/67	8.692	8.540	8.436	8.227	8.083	7.985	7.786	7.650	7.558
	115	80.6/62.6	8.647	8.496	8.393	8.184	8.041	7.944	7.746	7.611	7.519
	115	80.6/66.2	8.444	8.297	8.197	7.993	7.853	7.758	7.565	7.433	7.343
	115	84.2/66.2	8.535	8.385	8.284	8.078	7.937	7.841	7.646	7.512	7.421
	125	76/63	6.813	6.694	6.613	6.449	6.336	6.259	6.104	5.997	5.924
	125	80/67	7.391	7.262	7.174	6.996	6.874	6.791	6.622	6.506	6.427
	125	80.6/62.6	7.224	7.098	7.012	6.838	6.718	6.637	6.472	6.359	6.282
	125	80.6/66.2	7.088	6.964	6.880	6.709	6.592	6.512	6.350	6.239	6.164
	125	84.2/66.2	7.343	7.214	7.127	6.950	6.828	6.746	6.578	6.463	6.385

ESMA-HIEER SERIES-DUCTED PRODUCT DATA BOOK

DUCTED SPLIT UNITS (COOL) - QUICK SELECTION CHART - R410A - 50HZ

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Total Capacity BTUH								
EDC 24	95	76/63	21339	20718	20303	19632	19060	18679	18061	17535	17185
	95	80/67	24278	23571	23100	22336	21686	21252	20549	19951	19552
	95	80.6/62.6	22701	22040	21599	20885	20277	19871	19214	18655	18282
	95	80.6/66.2	23896	23200	22736	21984	21344	20917	20226	19636	19244
	95	84.2/66.2	24135	23432	22963	22204	21557	21126	20428	19833	19436
	105	76/63	20165	19578	19187	18552	18012	17652	17068	16571	16240
	105	80/67	23186	22510	22060	21331	20710	20295	19624	19053	18672
	105	80.6/62.6	21453	20828	20411	19736	19162	18778	18158	17629	17276
	105	80.6/66.2	22522	21866	21429	20720	20117	19714	19063	18507	18137
	105	84.2/66.2	22747	22085	21643	20927	20318	19912	19253	18692	18319
	115	76/63	18992	18439	18070	17472	16964	16624	16075	15606	15294
	115	80/67	22093	21450	21021	20326	19734	19339	18700	18155	17792
	115	80.6/62.6	20204	19616	19223	18588	18046	17685	17101	16603	16271
	115	80.6/66.2	20382	19789	19393	18752	18206	17842	17252	16749	16414
	115	84.2/66.2	20600	20000	19600	18952	18400	18032	17436	16928	16589
	125	76/63	16858	16367	16040	15509	15058	14756	14269	13853	13576
	125	80/67	19714	19140	18757	18137	17609	17256	16686	16200	15876
	125	80.6/62.6	17730	17213	16869	16311	15836	15519	15006	14569	14278
	125	80.6/66.2	18639	18096	17734	17148	16648	16315	15776	15316	15010
	125	84.2/66.2	19308	18746	18371	17763	17246	16901	16342	15866	15549

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Sensible Capacity BTUH								
EDC 24	95	76/63	18992	18439	18070	17472	16964	16624	16075	15606	15294
	95	80/67	20207	19618	19226	18590	18049	17688	17103	16605	16273
	95	80.6/62.6	19296	18668	18359	17752	17174	16891	16332	15800	15539
	95	80.6/66.2	19619	19047	18666	18049	17523	17173	16605	16122	15799
	95	84.2/66.2	19815	19238	18853	18230	17699	17345	16771	16283	15957
	105	76/63	16072	15604	15292	14786	14355	14068	13603	13207	12943
	105	80/67	22293	21644	21211	20510	19912	19514	18869	18319	17953
	105	80.6/62.6	20595	19995	19595	18947	18395	18027	17431	16924	16585
	105	80.6/66.2	21891	21254	20829	20140	19553	19162	18529	17989	17629
	105	84.2/66.2	21741	21108	20686	20002	19419	19031	18402	17866	17508
	115	76/63	16903	16410	16082	15551	15098	14796	14306	13890	13612
	115	80/67	20525	19927	19528	18883	18333	17966	17372	16866	16529
	115	80.6/62.6	16608	16124	15802	15279	14834	14537	14057	13647	13374
	115	80.6/66.2	18205	17675	17321	16748	16261	15935	15409	14960	14661
	115	84.2/66.2	18399	17863	17506	16927	16434	16105	15573	15119	14817
	125	76/63	11885	11539	11308	10934	10616	10403	10059	9766	9571
	125	80/67	15278	14833	14537	14056	13647	13374	12932	12555	12304
	125	80.6/62.6	13475	13082	12820	12397	12035	11795	11405	11073	10851
	125	80.6/66.2	14725	14296	14010	13547	13152	12889	12463	12100	11858
	125	84.2/66.2	15446	14996	14697	14211	13797	13521	13074	12693	12439

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Power Input (kW)								
EDC 24	95	76/63	1.857	1.835	1.820	1.805	1.784	1.769	1.754	1.734	1.720
	95	80/67	2.003	1.979	1.963	1.947	1.924	1.908	1.892	1.870	1.855
	95	80.6/62.6	1.843	1.821	1.807	1.792	1.770	1.756	1.741	1.721	1.707
	95	80.6/66.2	1.973	1.950	1.934	1.918	1.895	1.880	1.864	1.842	1.828
	95	84.2/66.2	1.973	1.950	1.934	1.918	1.895	1.880	1.864	1.842	1.828
	105	76/63	2.024	2.000	1.984	1.967	1.944	1.928	1.912	1.889	1.874
	105	80/67	2.183	2.157	2.140	2.122	2.096	2.080	2.062	2.038	2.021
	105	80.6/62.6	2.007	1.984	1.968	1.951	1.928	1.913	1.897	1.874	1.859
	105	80.6/66.2	2.151	2.125	2.108	2.090	2.066	2.049	2.032	2.008	1.992
	105	84.2/66.2	2.151	2.125	2.108	2.090	2.066	2.049	2.032	2.008	1.992
	115	76/63	2.190	2.164	2.147	2.129	2.104	2.087	2.069	2.045	2.028
	115	80/67	2.363	2.335	2.316	2.296	2.269	2.251	2.232	2.206	2.188
	115	80.6/62.6	2.172	2.146	2.129	2.111	2.086	2.069	2.052	2.027	2.011
	115	80.6/66.2	2.328	2.300	2.282	2.262	2.236	2.218	2.199	2.173	2.156
	115	84.2/66.2	2.328	2.300	2.282	2.262	2.236	2.218	2.199	2.173	2.156
	125	76/63	2.300	2.272	2.254	2.235	2.209	2.191	2.173	2.147	2.130
	125	80/67	2.479	2.450	2.430	2.409	2.381	2.362	2.342	2.314	2.296
	125	80.6/62.6	2.281	2.254	2.236	2.217	2.191	2.173	2.155	2.130	2.113
	125	80.6/66.2	2.444	2.415	2.396	2.376	2.347	2.329	2.309	2.282	2.263
	125	84.2/66.2	2.444	2.415	2.396	2.376	2.347	2.329	2.309	2.282	2.263

Fan Speed			High			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	EER								
EDC 24	95	76/63	11.491	11.291	11.154	10.877	10.687	10.557	10.295	10.115	9.992
	95	80/67	12.121	11.909	11.765	11.473	11.272	11.136	10.859	10.669	10.540
	95	80.6/62.6	12.316	12.101	11.955	11.658	11.454	11.315	11.034	10.841	10.710
	95	80.6/66.2	12.109	11.897	11.754	11.461	11.261	11.125	10.848	10.659	10.530
	95	84.2/66.2	12.230	12.016	11.871	11.576	11.374	11.236	10.957	10.765	10.635
	105	76/63	9.965	9.791	9.672	9.432	9.267	9.155	8.927	8.771	8.665
	105	80/67	10.622	10.437	10.310	10.054	9.878	9.759	9.516	9.350	9.237
	105	80.6/62.6	10.687	10.500	10.373	10.115	9.938	9.818	9.574	9.407	9.293
	105	80.6/66.2	10.473	10.290	10.165	9.913	9.739	9.622	9.382	9.218	9.107
	105	84.2/66.2	10.401	10.219	10.096	9.845	9.673	9.556	9.318	9.155	9.044
	115	76/63	8.671	8.519	8.416	8.207	8.064	7.966	7.768	7.632	7.540
	115	80/67	9.352	9.188	9.077	8.851	8.697	8.591	8.378	8.231	8.132
	115	80.6/62.6	9.304	9.141	9.030	8.806	8.652	8.547	8.335	8.189	8.090
	115	80.6/66.2	9.086	8.927	8.819	8.600	8.449	8.347	8.140	7.997	7.901
	115	84.2/66.2	8.850	8.696	8.590	8.377	8.230	8.131	7.929	7.790	7.696
	125	76/63	7.331	7.202	7.115	6.938	6.817	6.735	6.567	6.452	6.374
	125	80/67	7.953	7.814	7.719	7.527	7.396	7.306	7.125	7.000	6.915
	125	80.6/62.6	7.773	7.637	7.544	7.357	7.228	7.141	6.963	6.842	6.759
	125	80.6/66.2	7.626	7.493	7.403	7.218	7.092	7.007	6.832	6.713	6.632
	125	84.2/66.2	7.900	7.762	7.668	7.478	7.347	7.258	7.078	6.954	6.870

ESMA-HIEER SERIES-DUCTED PRODUCT DATA BOOK

DUCTED SPLIT UNITS (COOL) - QUICK SELECTION CHART - R410A - 50HZ

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Total Capacity BTUH								
EDC 30	95	76/63	27134	26344	25817	24963	24236	23751	22966	22297	21851
	95	80/67	30871	29972	29373	28401	27574	27023	26129	25368	24861
	95	80.6/62.6	28866	28025	27465	26556	25783	25267	24432	23720	23246
	95	80.6/66.2	30385	29500	28910	27954	27140	26597	25718	24969	24469
	95	84.2/66.2	30689	29795	29199	28234	27411	26863	25975	25218	24714
	105	76/63	25641	24895	24397	23590	22903	22445	21703	21071	20649
	105	80/67	29482	28623	28051	27123	26333	25807	24954	24227	23742
	105	80.6/62.6	27278	26484	25954	25096	24365	23878	23088	22416	21967
	105	80.6/66.2	28638	27804	27248	26347	25579	25068	24239	23533	23062
	105	84.2/66.2	28696	27860	27303	26400	25631	25119	24288	23581	23109
	115	76/63	24149	23446	22977	22217	21570	21139	20440	19844	19448
	115	80/67	28093	27275	26729	25845	25093	24591	23778	23085	22623
	115	80.6/62.6	25691	24942	24443	23635	22947	22488	21744	21111	20689
	115	80.6/66.2	26421	25651	25138	24307	23599	23127	22363	21711	21277
	115	84.2/66.2	26703	25925	25407	24567	23851	23374	22601	21943	21504
	125	76/63	21436	20811	20395	19721	19146	18764	18143	17615	17262
	125	80/67	25067	24337	23851	23062	22390	21942	21217	20599	20187
	125	80.6/62.6	22544	21888	21450	20741	20137	19734	19081	18526	18155
	125	80.6/66.2	23700	23010	22550	21804	21169	20746	20060	19476	19086
	125	84.2/66.2	24551	23836	23359	22587	21929	21491	20780	20175	19771

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Sensible Capacity BTUH								
EDC 30	95	76/63	24149	23446	22977	22217	21570	21139	20440	19844	19448
	95	80/67	25694	24946	24447	23638	22950	22491	21747	21114	20692
	95	80.6/62.6	24536	23737	23345	22573	21838	21477	20767	20091	19759
	95	80.6/66.2	24946	24220	23735	22950	22282	21836	21114	20499	20089
	95	84.2/66.2	25196	24462	23972	23180	22505	22055	21326	20704	20290
	105	76/63	20436	19841	19444	18801	18254	17889	17297	16793	16458
	105	80/67	28347	27521	26971	26079	25320	24813	23993	23294	22828
	105	80.6/62.6	26187	25424	24916	24092	23390	22923	22165	21519	21089
	105	80.6/66.2	27836	27025	26485	25609	24863	24366	23560	22874	22417
	105	84.2/66.2	27892	27080	26538	25661	24914	24415	23608	22920	22462
	115	76/63	21493	20867	20449	19773	19197	18813	18191	17662	17308
	115	80/67	26098	25338	24831	24010	23311	22845	22089	21446	21017
	115	80.6/62.6	21118	20503	20092	19428	18862	18485	17874	17353	17006
	115	80.6/66.2	23598	22911	22452	21710	21078	20656	19973	19392	19004
	115	84.2/66.2	23850	23155	22692	21942	21303	20877	20186	19599	19207
	125	76/63	15112	14672	14379	13903	13498	13228	12791	12418	12170
	125	80/67	19427	18861	18484	17873	17352	17005	16443	15964	15645
	125	80.6/62.6	17134	16635	16302	15763	15304	14998	14502	14079	13798
	125	80.6/66.2	18723	18178	17814	17225	16724	16389	15847	15386	15078
	125	84.2/66.2	19641	19069	18687	18070	17543	17192	16624	16140	15817

Fan Speed			Hi			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	Power Input (kW)								
EDC 30	95	76/63	2.333	2.305	2.287	2.268	2.241	2.223	2.204	2.178	2.161
	95	80/67	2.517	2.487	2.467	2.446	2.417	2.398	2.378	2.349	2.331
	95	80.6/62.6	2.316	2.288	2.270	2.251	2.224	2.206	2.188	2.162	2.145
	95	80.6/66.2	2.479	2.450	2.430	2.410	2.381	2.362	2.342	2.315	2.296
	95	84.2/66.2	2.479	2.450	2.430	2.410	2.381	2.362	2.342	2.315	2.296
	105	76/63	2.497	2.468	2.448	2.427	2.399	2.379	2.359	2.332	2.313
	105	80/67	2.694	2.662	2.641	2.618	2.587	2.567	2.545	2.515	2.495
	105	80.6/62.6	2.477	2.448	2.428	2.408	2.379	2.360	2.341	2.313	2.294
	105	80.6/66.2	2.654	2.623	2.602	2.580	2.549	2.529	2.507	2.478	2.458
	105	84.2/66.2	2.654	2.623	2.602	2.580	2.549	2.529	2.507	2.478	2.458
	115	76/63	2.662	2.630	2.609	2.587	2.556	2.536	2.515	2.485	2.465
	115	80/67	2.871	2.837	2.814	2.791	2.757	2.735	2.712	2.680	2.659
	115	80.6/62.6	2.639	2.608	2.587	2.565	2.535	2.514	2.493	2.464	2.444
	115	80.6/66.2	2.829	2.795	2.773	2.749	2.717	2.695	2.672	2.641	2.620
	115	84.2/66.2	2.829	2.795	2.773	2.749	2.717	2.695	2.672	2.641	2.620
	125	76/63	2.795	2.761	2.739	2.716	2.684	2.663	2.640	2.609	2.588
	125	80/67	3.012	2.977	2.953	2.928	2.893	2.870	2.846	2.812	2.790
	125	80.6/62.6	2.772	2.739	2.717	2.694	2.662	2.641	2.619	2.588	2.567
	125	80.6/66.2	2.970	2.935	2.911	2.887	2.853	2.830	2.806	2.773	2.751
	125	84.2/66.2	2.970	2.935	2.911	2.887	2.853	2.830	2.806	2.773	2.751

Fan Speed			High			Med			Low		
External Static Pressure in.wg			0	0.1	0.2	0	0.1	0.2	0	0.1	0.2
Model	Air On Condenser (°F)	Air On Evaporator (°F)	EER								
EDC 30	95	76/63	11.630	11.427	11.288	11.008	10.815	10.684	10.419	10.237	10.113
	95	80/67	12.267	12.053	11.907	11.611	11.408	11.270	10.990	10.798	10.667
	95	80.6/62.6	12.465	12.247	12.099	11.798	11.592	11.452	11.167	10.972	10.839
	95	80.6/66.2	12.255	12.041	11.895	11.599	11.397	11.259	10.979	10.787	10.656
	95	84.2/66.2	12.378	12.161	12.014	11.715	11.511	11.371	11.089	10.895	10.763
	105	76/63	10.267	10.088	9.966	9.718	9.548	9.433	9.198	9.037	8.928
	105	80/67	10.944	10.753	10.623	10.359	10.178	10.055	9.805	9.633	9.517
	105	80.6/62.6	11.011	10.818	10.688	10.422	10.240	10.116	9.864	9.692	9.575
	105	80.6/66.2	10.791	10.602	10.474	10.213	10.035	9.913	9.667	9.498	9.383
	105	84.2/66.2	10.812	10.623	10.495	10.234	10.055	9.933	9.686	9.517	9.402
	115	76/63	9.073	8.914	8.807	8.588	8.437	8.335	8.128	7.986	7.890
	115	80/67	9.785	9.614	9.498	9.262	9.100	8.990	8.766	8.613	8.509
	115	80.6/62.6	9.735	9.565	9.449	9.214	9.053	8.944	8.721	8.569	8.465
	115	80.6/66.2	9.507	9.341	9.228	8.998	8.841	8.734	8.517	8.368	8.267
	115	84.2/66.2	9.440	9.275	9.163	8.935	8.779	8.673	8.457	8.310	8.209
	125	76/63	7.670	7.536	7.445	7.260	7.133	7.047	6.872	6.752	6.670
	125	80/67	8.321	8.176	8.077	7.876	7.739	7.645	7.455	7.325	7.236
	125	80.6/62.6	8.133	7.991	7.894	7.698	7.563	7.472	7.286	7.159	7.072
	125	80.6/66.2	7.980	7.841	7.746	7.553	7.421	7.331	7.149	7.024	6.939
	125	84.2/66.2	8.266	8.122	8.024	7.824	7.687	7.594	7.406	7.276	7.188

ESMA-HIEER SERIES-DUCTED PRODUCT DATA BOOK

DUCTED MODELS - 50Hz						
Model	Speed	Air flow in CFM / External Static pressure (Pa)				
		0	25	50	75	100
EDC18	High	605	585	558	NA	NA
	Med	527	506	477	NA	NA
	Low	448	423	396	NA	NA
EDC24	High	823	779	738	NA	NA
	Med	766	730	691	NA	NA
	Low	686	646	602	NA	NA
EDC30	High	1012	974	920	NA	NA
	Med	915	877	828	NA	NA
	Low	736	693	653	NA	NA
ESC36	High	1306	1174	1168	1095	1021
	Med	1141	961	956	897	837
	Low	929	841	737	690	639
ESC42	High	1521	1359	1365	1256	1161
	Med	1368	1224	1229	1134	1053
	Low	1121	1052	1003	927	864
ESC48	High	1691	1636	1559	1463	1362
	Med	1508	1444	1356	1234	1115
	Low	1298	1225	1142	1024	887
ESC60	High	2181	2074	1950	1801	1655
	Med	1691	1636	1559	1463	1362
	Low	1508	1444	1356	1234	1115

DUCTED MODELS - 50Hz						
Model	Speed	Airflow in CMH / External Static pressure (Inch wg)				
		0.0	0.1	0.2	0.3	0.4
EDC18	High	1029	995	949	NA	NA
	Med	896	860	811	NA	NA
	Low	762	719	673	NA	NA
EDC24	High	1399	1325	1255	NA	NA
	Med	1302	1241	1175	NA	NA
	Low	1166	1098	1023	NA	NA
EDC30	High	1720	1655	1564	NA	NA
	Med	1556	1491	1408	NA	NA
	Low	1251	1179	1110	NA	NA
ESC36	High	2220	1996	1985	1862	1736
	Med	1940	1634	1626	1525	1423
	Low	1579	1430	1252	1173	1086
ESC42	High	2586	2310	2320	2135	1974
	Med	2326	2081	2090	1928	1790
	Low	1906	1788	1705	1576	1469
ESC48	High	2875	2781	2650	2487	2315
	Med	2564	2455	2304	2098	1896
	Low	2207	2083	1942	1741	1508
ESC60	High	3708	3526	3315	3062	2814
	Med	2875	2781	2650	2487	2315
	Low	2564	2455	2305	2098	1896

PIPE SELECTION CHART - SUCTION

**R410A, 50/60 Hz
Suction Line Pipe selection chart**

	Pipe Size	Equivalent Pipe length (m) - Vertical + Horizontal							
		7.5	10	15	20	25	30	35	40
18	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	
	5/8"								5/8"
24	5/8"*	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
	3/4"								
30	5/8"*	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"		
	3/4"							3/4"	3/4"
36	5/8"*	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"		
	3/4"							3/4"	3/4"
42	3/4"*	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
	7/8"								7/8"
48	3/4"*	3/4"	3/4"	3/4"	3/4"	3/4"			
	7/8"						7/8"	7/8"	7/8"
60	3/4"*	3/4"	3/4"	3/4"					
	7/8"				7/8"	7/8"	7/8"	7/8"	7/8"
70	7/8"*	7/8"	7/8"	7/8"					
	1 1/8"				1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"

*- Standard pipe size supplied by factory will be 5 m.

**R410A, 50/60 Hz
Capacity loss multiplier**

	Pipe Size	Equivalent Pipe length (m) - Vertical + Horizontal							
		7.5	10	15	20	25	30	35	40
18	1/2"*	0	0.992	0.984	0.979	0.974	0.969	0.964	
	5/8"								0.969
24	5/8"*	0	0.994	0.982	0.977	0.972	0.967	0.963	0.958
30	5/8"*	0	0.99	0.982	0.977	0.972	0.967		
	3/4"							0.972	0.967
36	5/8"*	0	0.991	0.988	0.983	0.978	0.973		
	3/4"							0.978	0.973
42	3/4"*	0	0.989	0.982	0.977	0.972	0.967	0.963	
	7/8"								0.967
48	3/4"*	0	0.981	0.979	0.974	0.969			
	7/8"						0.971	0.969	0.964
60	3/4"*	0	0.982	0.978					
	7/8"				0.974	0.971	0.965	0.961	0.958
70	7/8"*	0	0.982	0.978					
	1 1/8"				0.974	0.971	0.965	0.961	0.958

General Notes:

- 1) The above chart is applicable for Recip / Scroll compressors
- 2) For rotary compressor the max elevation allowed is 10 meters and the total Equivalent length of piping is to be limited to 15 meters
- 3) For Recip / Scroll compressor the max elevation allowed is 20 meters and the total Equivalent length of piping is to be limited to 40 meters
- 4) When the Outdoor unit is located above indoor unit, install a suction riser every 5 meters
- 5) The capacity derating as per the performance chart applicable at various ambient temperatures
- 6) The total length exceed more than 20 mts the following components to be installed at site
 - 6.1) hard start kit (start capacitor and relay) must be installed on outdoor unit

PIPE SELECTION CHART - LIQUID

R410A, 50 Hz/60Hz

Liquid line Pipe selection (Outdoor unit above indoor unit) Max Elevation: 20 Meters

	Pipe Size	Equivalent Pipe length (m) - Vertical + Horizontal							
		7.5	10	15	20	25	30	35	40
18	1/4"*	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
24	1/4"*	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
30	3/8"*	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
36	3/8"*	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
42	3/8"*	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
48	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
60	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
70	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

*- Standard pipe size supplied by factory will be 5 m.

The maximum elevation on Outdoor unit above indoor unit: 20 m.

Total Equivalent length of piping : 40 m.

R410A, 50 Hz/60Hz

Liquid line Sizing (Indoor unit above outdoor unit) Max Elevation: 15 Meters

	Pipe Size	Equivalent Pipe length (m) - Vertical + Horizontal							
		7.5	10	15	20	25	30	35	40
18	1/4"*	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
24	1/4"*	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
30	3/8"*	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
36	3/8"*	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
42	3/8"*	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"		
	1/2"							1/2"	1/2"
48	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
60	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
70	1/2"*	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

*- Standard pipe size supplied by factory will be 5 m.

The maximum elevation on indoor unit above outdoor unit: 15 m.

Total Equivalent length of piping : 40 m.

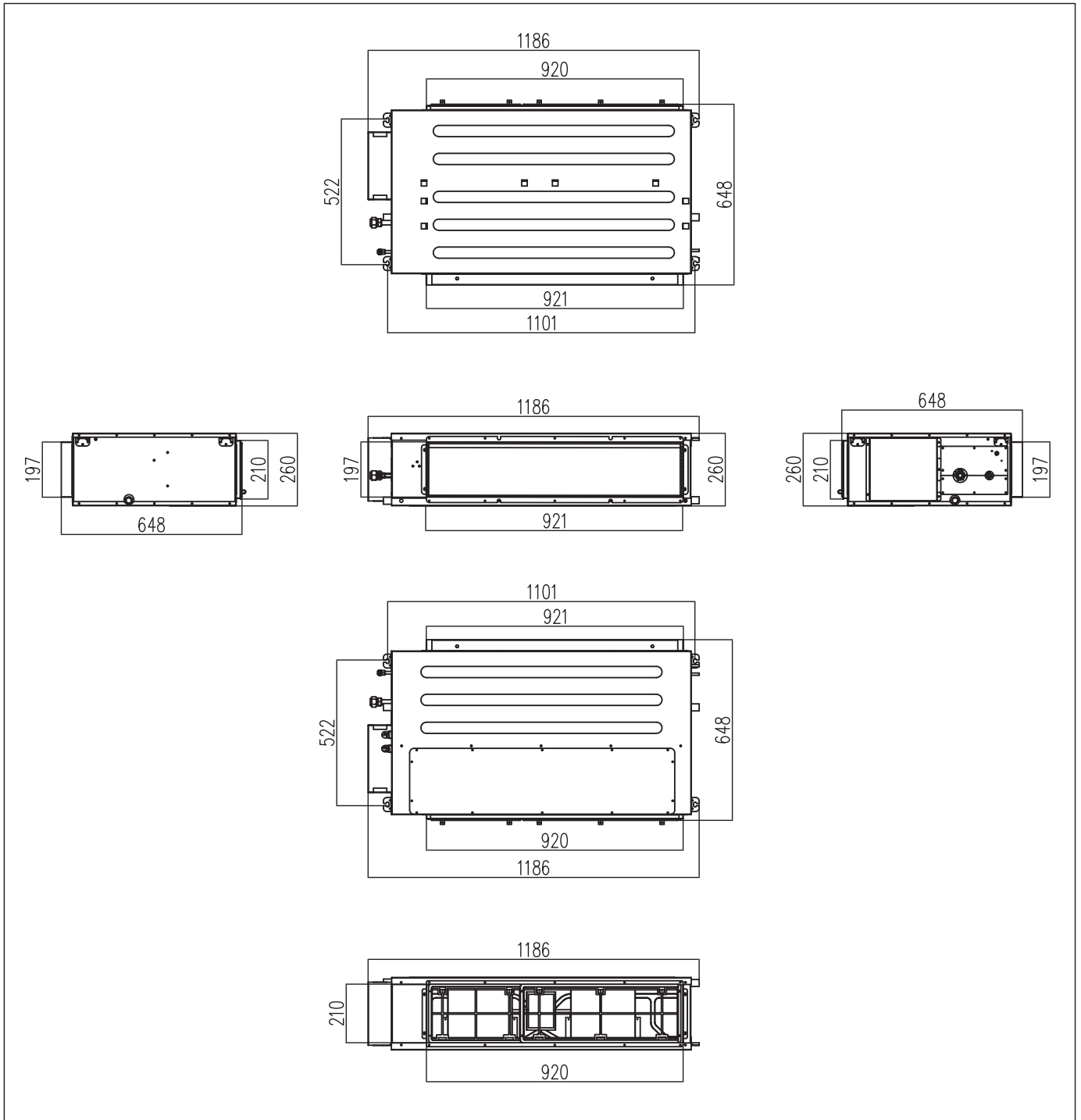
General Notes:

- 1) The above chart is applicable for Recip / Scroll compressors
- 2) For rotary compressor the max elevation allowed is 10 meters and the total Equivalent length of piping is to be limited to 15 meters.
- 3) For Recip / Scroll compressor the max elevation allowed is 20 meters and the total Equivalent length of piping is to be limited to 40 meters

Extra Refrigerant Charging

Liquid Line Size	R410a
1/4	20
3/8	25
1/2	30

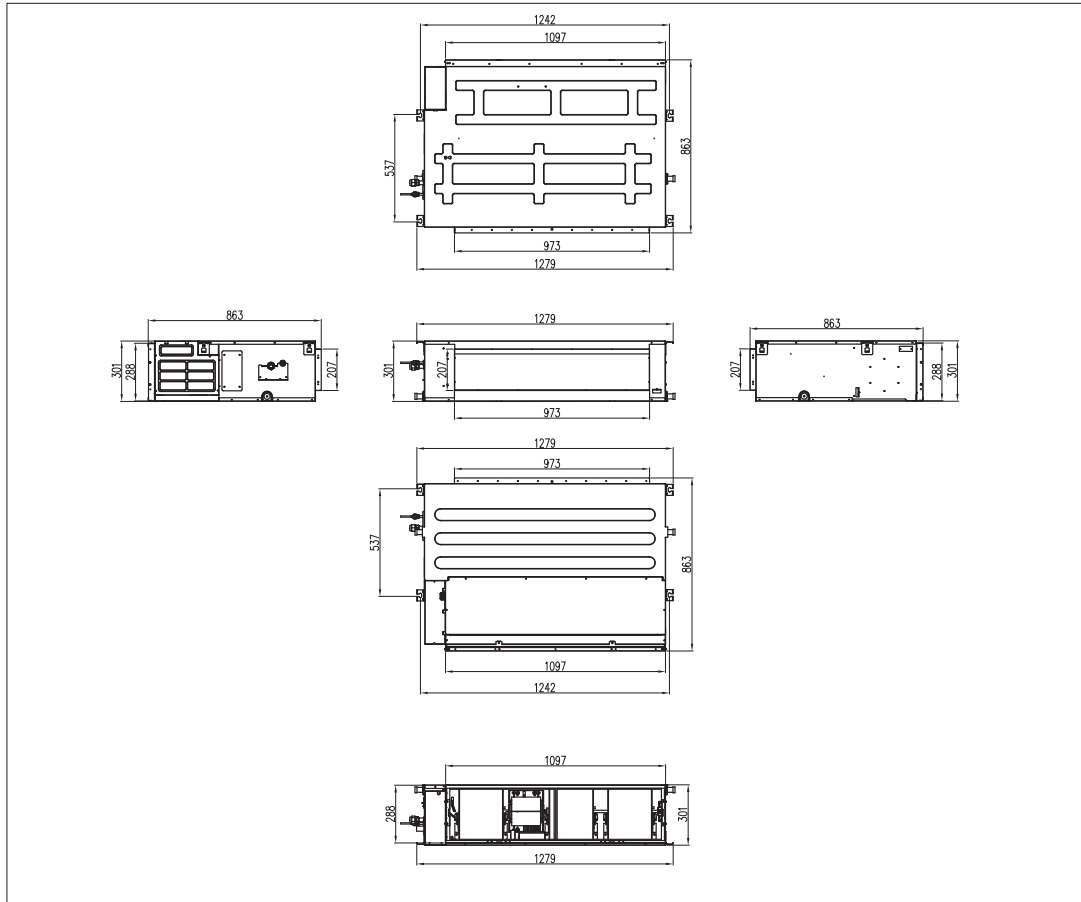
GENERAL ARRANGEMENT OF LO STATIC SERIES: 18 & 24K



Dimension & Layout shown above are subject to change without notice

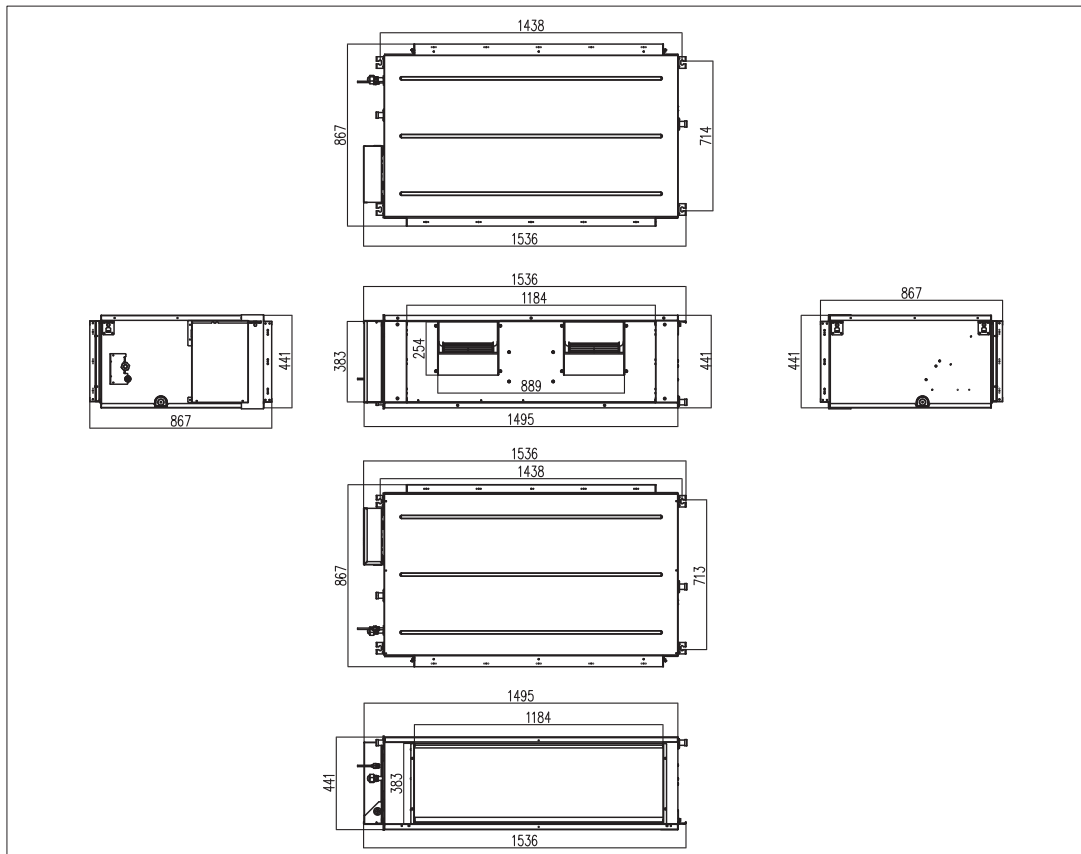
ESMA-HIEER SERIES-DUCTED PRODUCT DATA BOOK

GENERAL ARRANGEMENT OF LO/Hi STATIC SERIES: 30K LO STATIC, 36 & 42K Hi STATIC



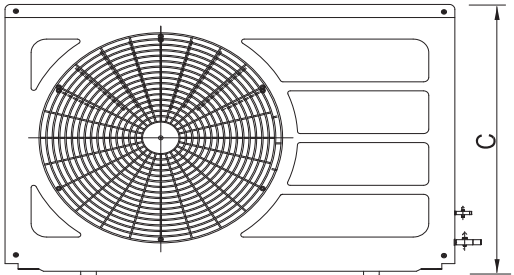
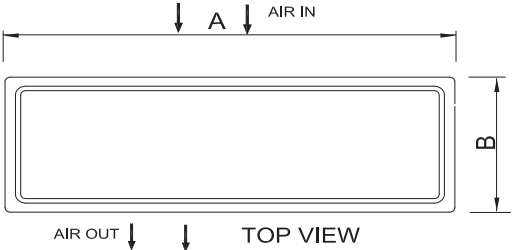
Dimension & Layout shown above are subject to change without notice

GENERAL ARRANGEMENT OF HI STATIC SERIES: 48 & 60K



Dimension & Layout shown above are subject to change without notice

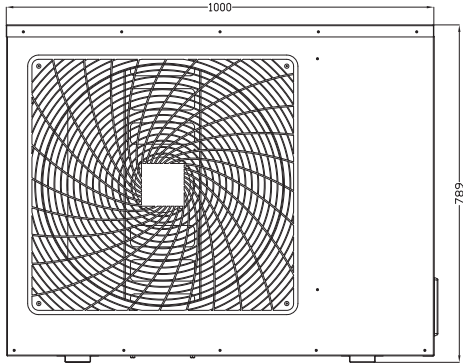
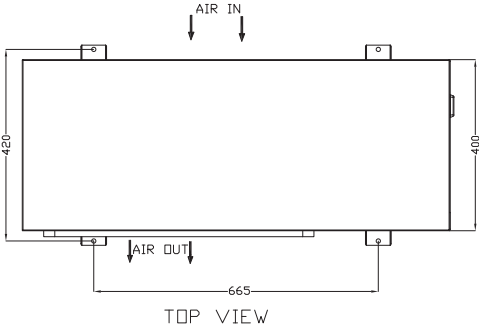
18K SIDE DISCHARGE MODEL



CST 18 SIDE DISCHARGE MODEL

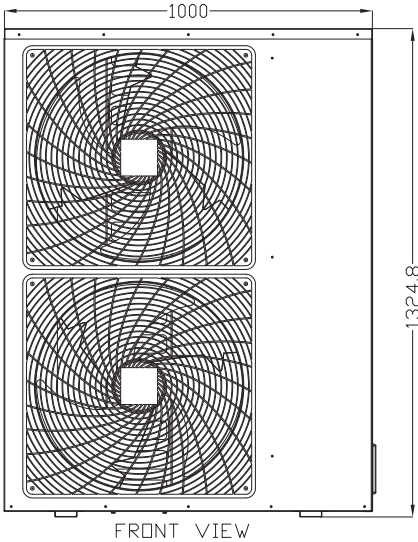
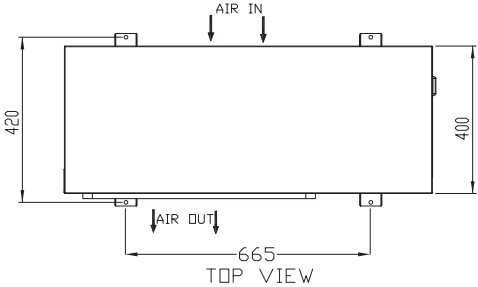
MODEL	DIM 'A' (mm)	DIM 'B' (mm)	DIM 'C' (mm)
CST 18	870	320	650

24/30/36K SIDE DISCHARGE MODELS



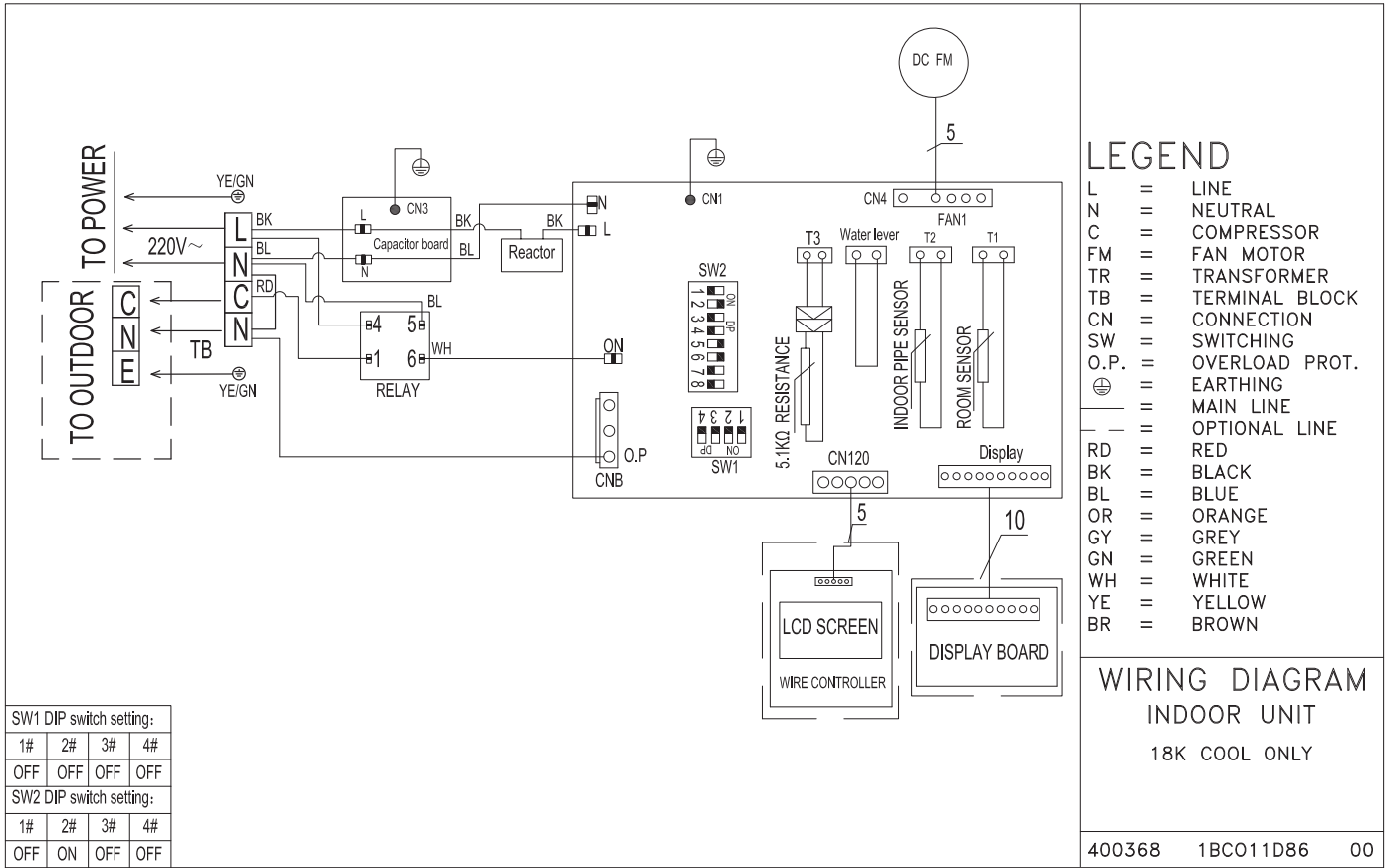
CST24/CST30/CST36 SIDE DISCHARGE MODELS

42/48/60K SIDE DISCHARGE MODELS

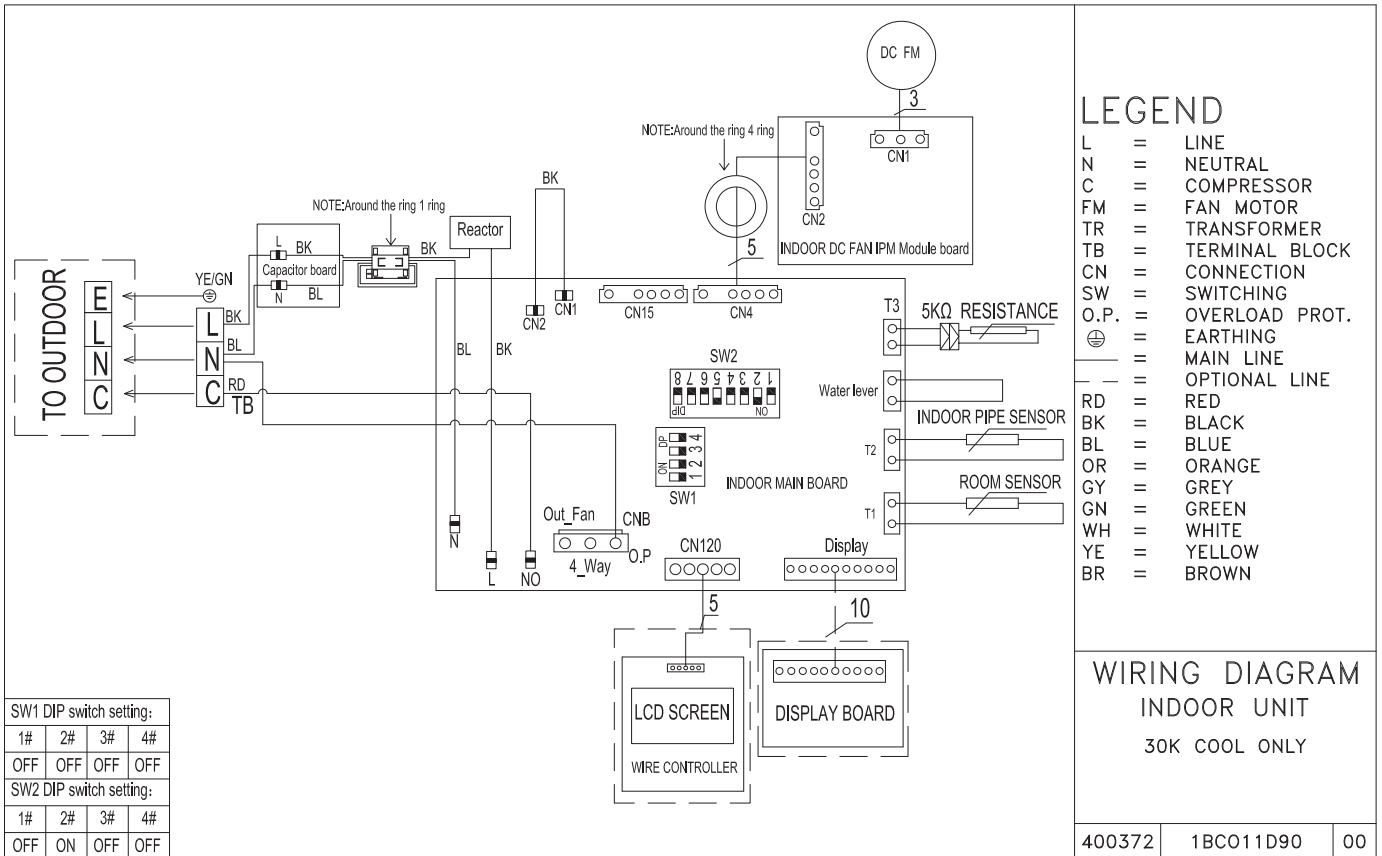


CSS42/CSS48/CSS60 SIDE DISCHARGE MODELS

18/24K COOL INDOOR UNIT



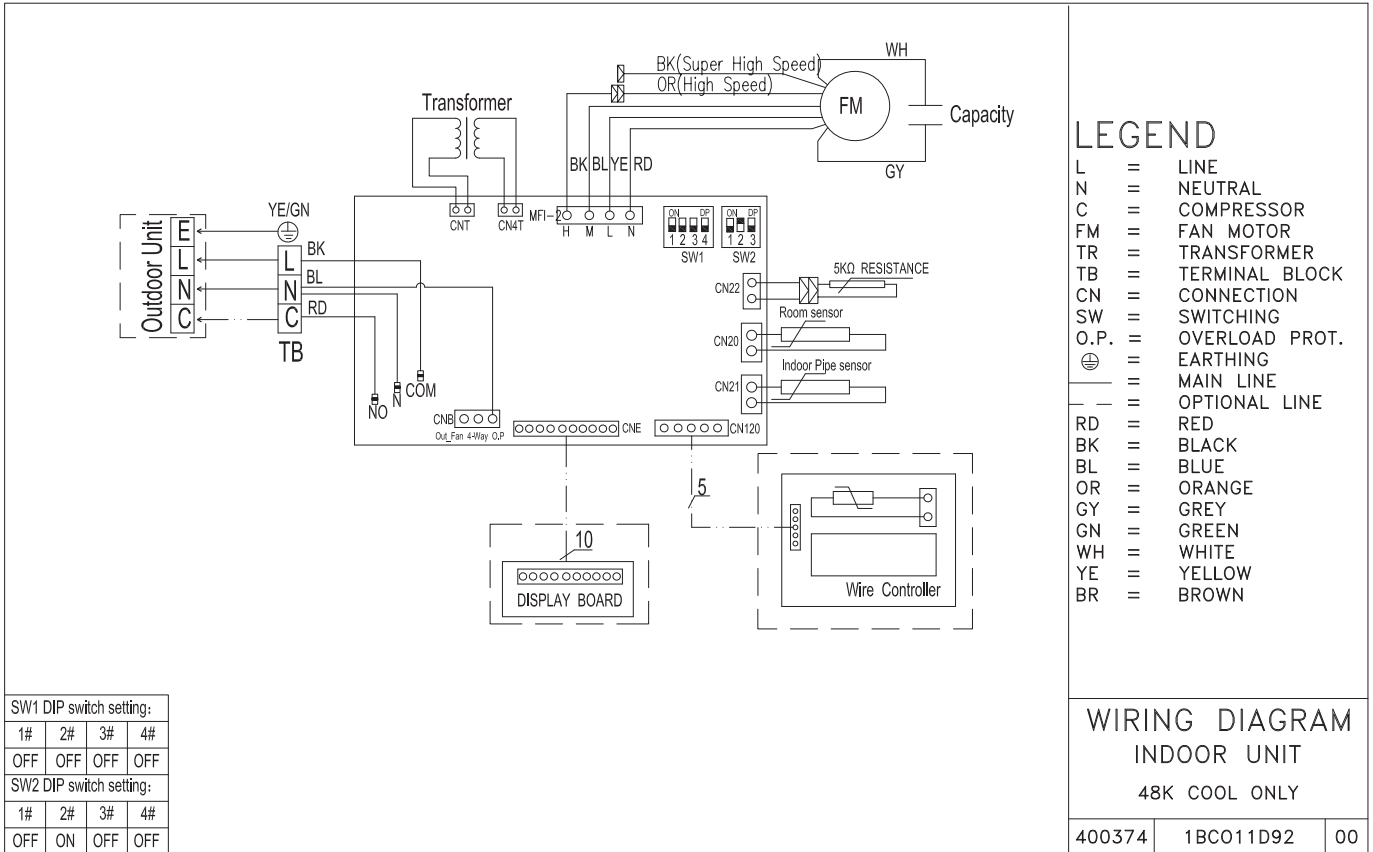
30/36/42K COOL INDOOR UNIT



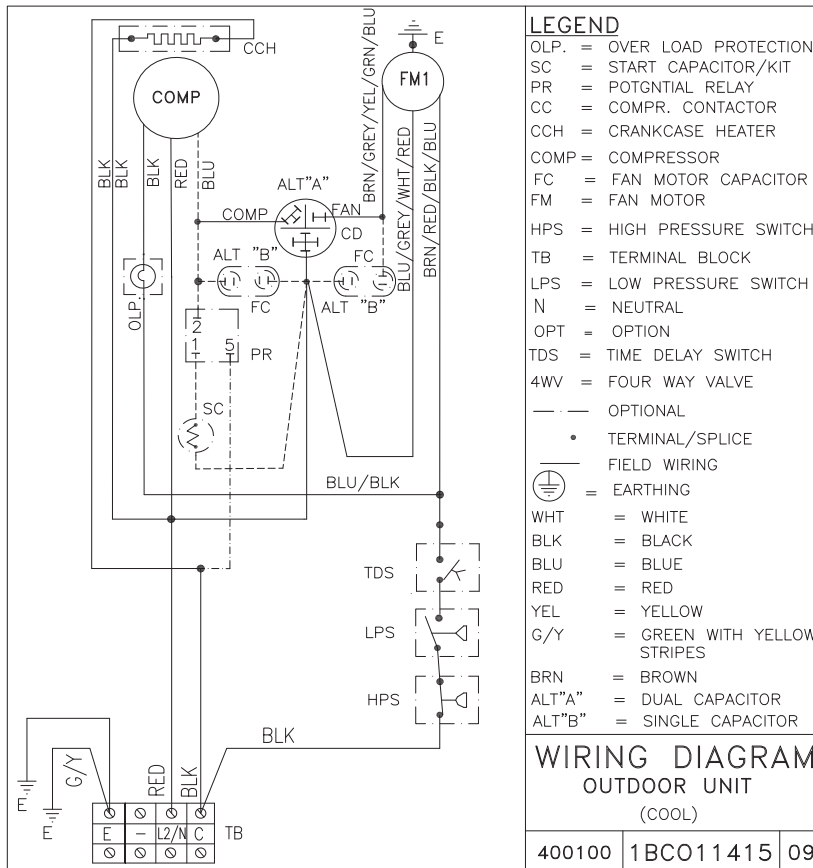
Note: Wiring diagram given above for reference only. Refer wiring diagram pasted on unit for details.

ESMA-HIEER SERIES-DUCTED PRODUCT DATA BOOK

48/60K COOL INDOOR UNIT

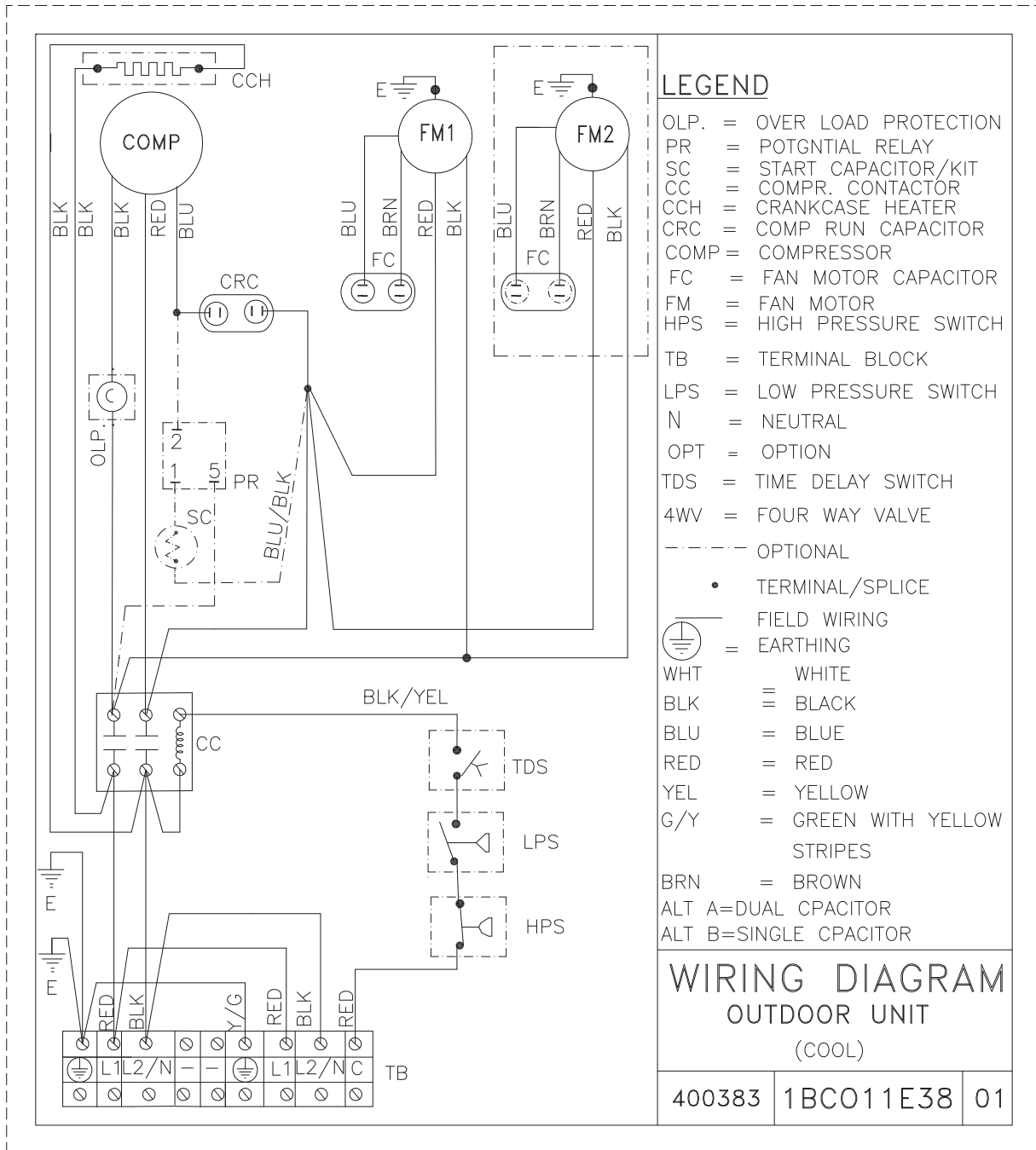


18/24K COOL OUTDOOR UNIT



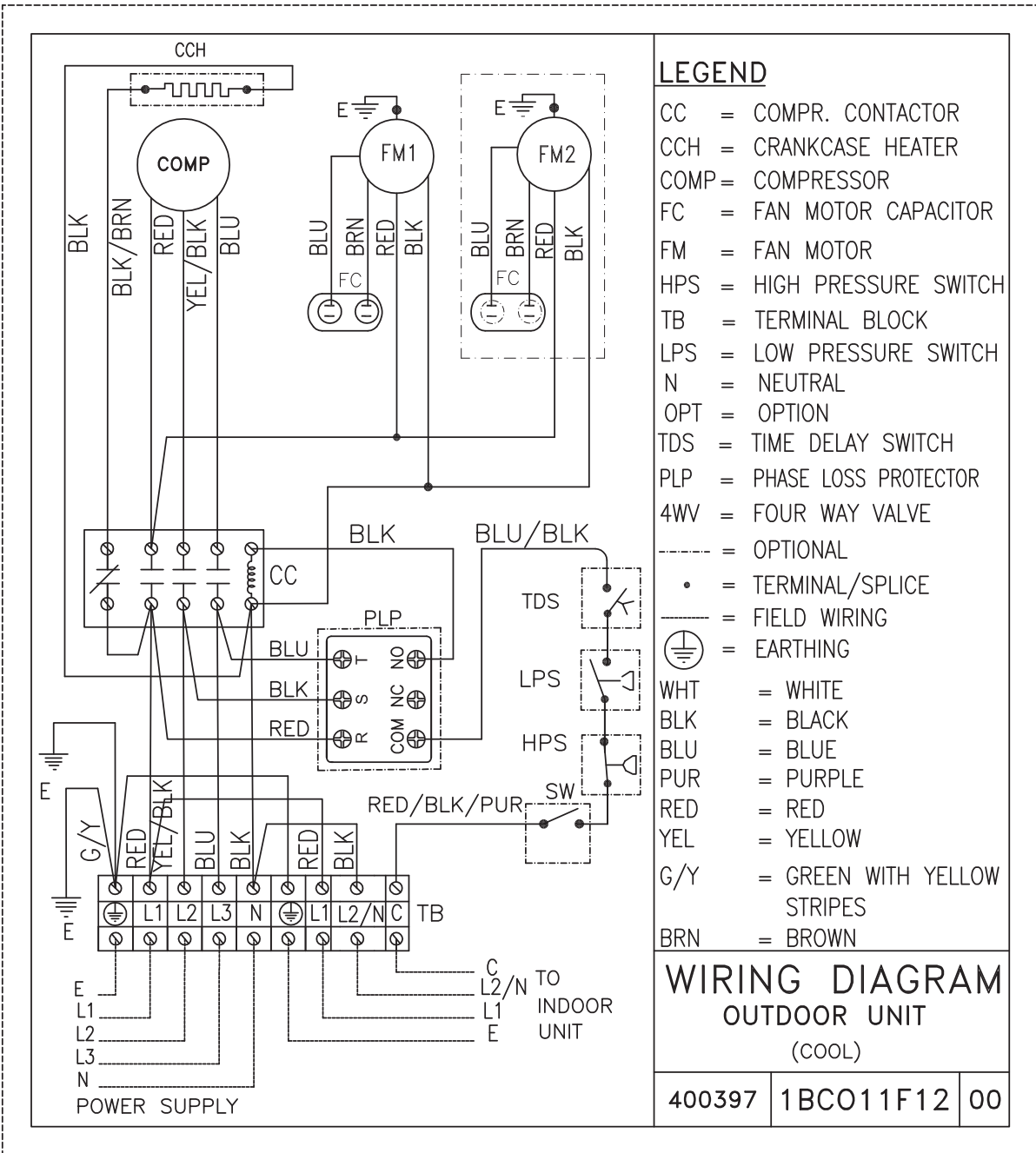
Note: Wiring diagram given above for reference only. Refer wiring diagram pasted on unit for details.

WIRING DIAGRAM-OUTDOOR UNIT
30/36 COOL ONLY



Note: Wiring diagram given above for reference only. Refer wiring diagram pasted on unit for details.

**WIRING DIAGRAM-OUTDOOR UNIT
42/48/60 COOL ONLY 3 PHASE**



- LEGEND**
- CC = COMPR. CONTACTOR
 - CCH = CRANKCASE HEATER
 - COMP = COMPRESSOR
 - FC = FAN MOTOR CAPACITOR
 - FM = FAN MOTOR
 - HPS = HIGH PRESSURE SWITCH
 - TB = TERMINAL BLOCK
 - LPS = LOW PRESSURE SWITCH
 - N = NEUTRAL
 - OPT = OPTION
 - TDS = TIME DELAY SWITCH
 - PLP = PHASE LOSS PROTECTOR
 - 4WV = FOUR WAY VALVE
 - = OPTIONAL
 - = TERMINAL/SPLICE
 - = FIELD WIRING
 - ⊕ = EARTHING
 - WHT = WHITE
 - BLK = BLACK
 - BLU = BLUE
 - PUR = PURPLE
 - RED = RED
 - YEL = YELLOW
 - G/Y = GREEN WITH YELLOW STRIPES
 - BRN = BROWN

**WIRING DIAGRAM
OUTDOOR UNIT
(COOL)**

400397	1BCO11F12	00
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Note: Wiring diagram given above for reference only. Refer wiring diagram pasted on unit for details.



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