



 United Technologies

40LM 040~100 – PRODUCT DATA DIGEST

CHILLED WATER FAN COIL UNITS



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FEATURES & SPECIFICATIONS

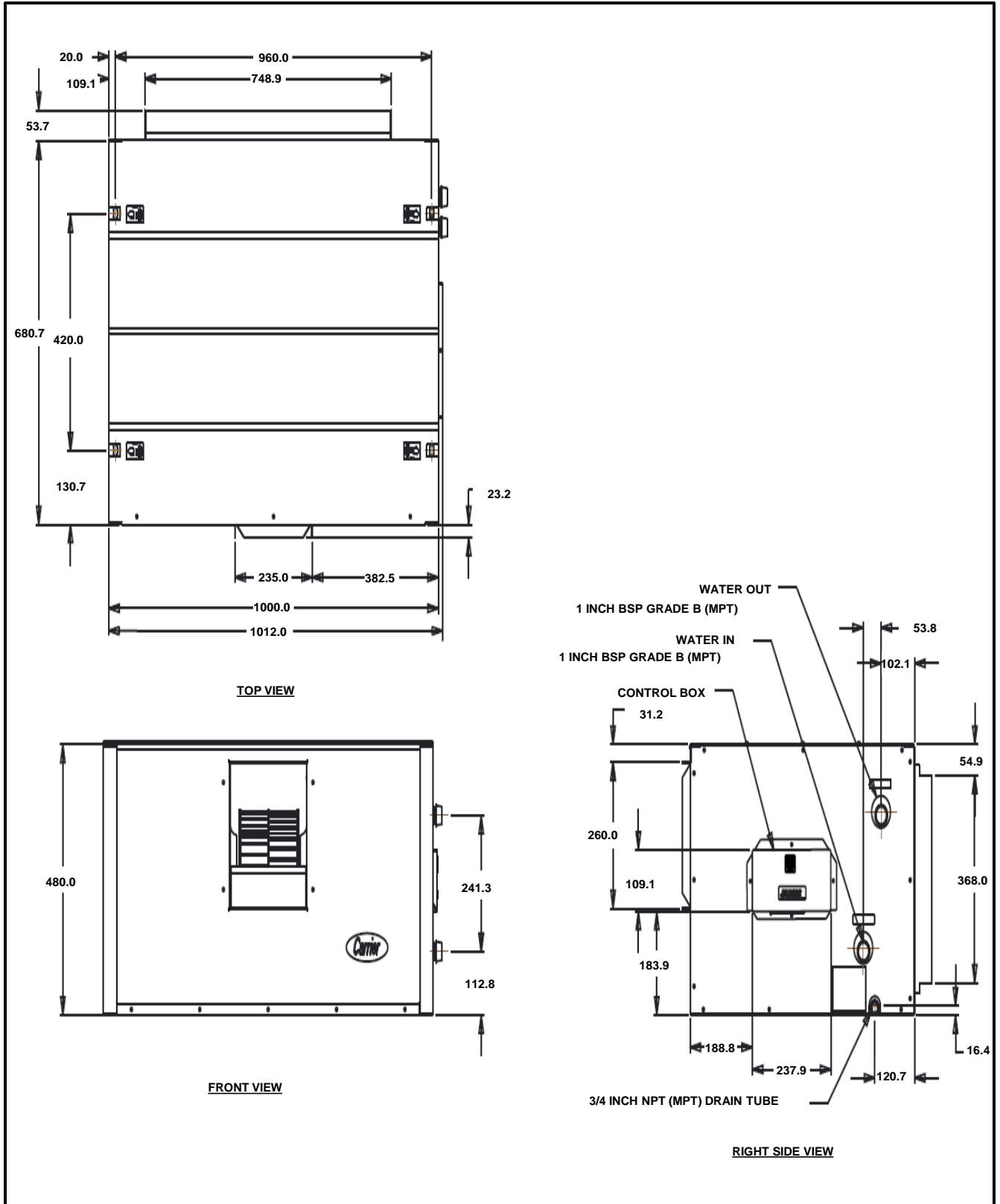
Any Room, Every Room Flexibility In An Air Conditioning System

- Chilled Water Furred-in model with Plenum Fan Coil units
- The low silhouette styling of this unit makes it a popular choice for “in-the-ceiling” or “over the closet” applications in all types of building
- Horizontal ducted application
- Insulated & painted condensate drain pan and a factory fitted frame complete with filter media
- Installed with direct driven forward curved centrifugal fans and 3 speed motor ensures quiet operation
- Standard copper tube aluminum fins (Cu/Al) evaporator coil for maximum heat transfer
- Carrier Lanced Sine Wave fin pattern ensures energy efficient performance
- Units shall be manufactured as left-hand side (in the direction of air flow) piping connection as standard

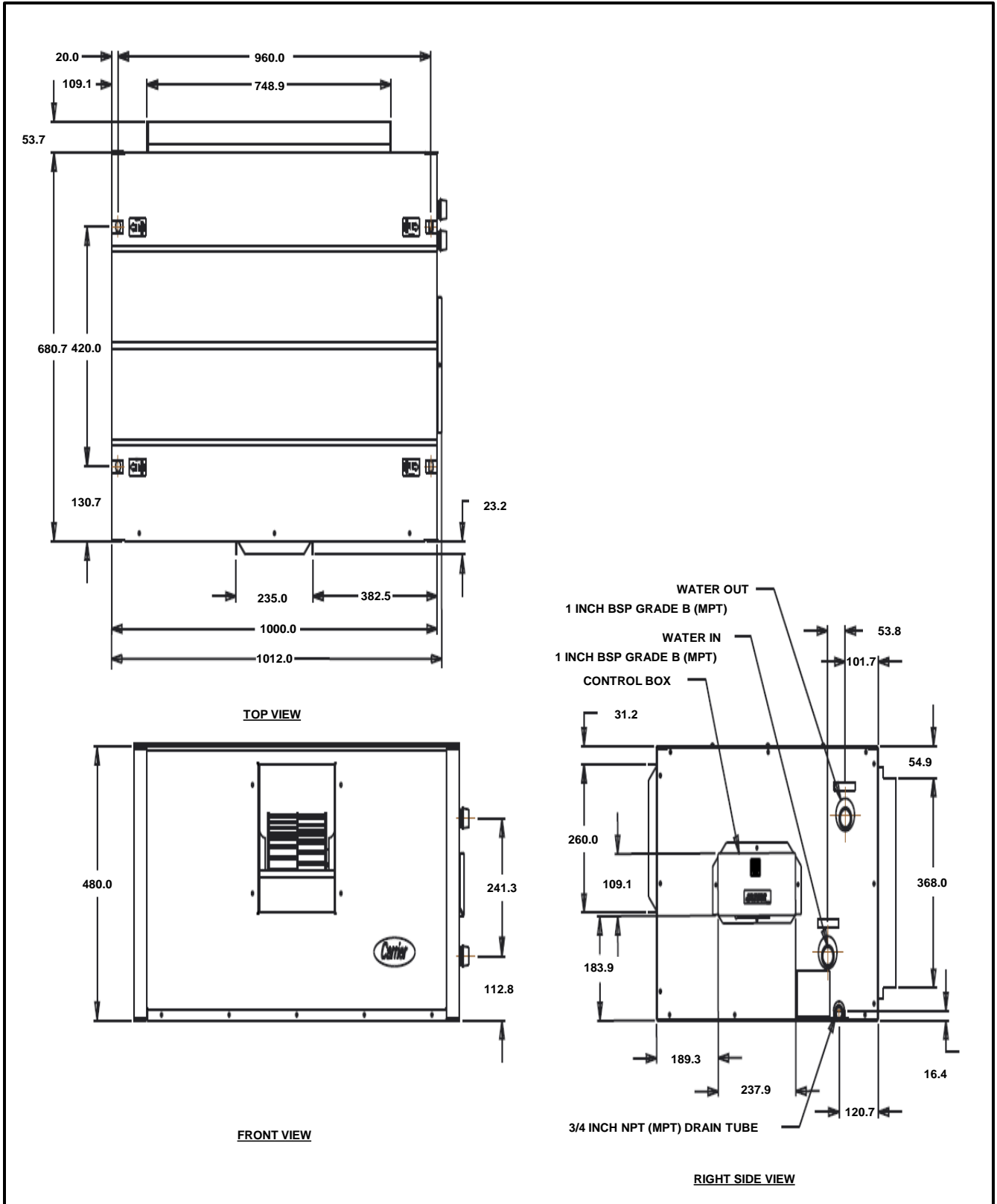
GENERAL							
Type		Chilled Water Fan Coil					
Model		040	050	060	070	090	100
Nominal Capacity	kW	12.2	14.7	17.6	20.9	26.5	29.9
	Btu/hr	41,580	50,251	60,218	71,467	90,367	102
Air Quantity (Range)	l/s	430 - 657	421 - 659	563 - 780	784 - 1283	825 - 1232	1271 - 1813
Power Supply	V/Ph/Hz	230/1/50					
FAN							
Type		Centrifugal Forward Curved Blades					
Drive		Direct Drive					
Quantity	pcs	1			2		
Max Rev	rpm	1500					
Diameter	mm	241					
MOTOR							
Type		Permanent Split Capacitor, 3 Speeds					
Quantity	pcs	1					
Power Input	kW	0.47	0.47	0.83	1.01	1.01	1.41
Power Output	kW	0.32	0.32	0.46	0.75	0.75	0.80
Full Load Amps	A	2.46	2.46	4.40	4.55	4.55	7.40
Rev	rpm	1350	1350	1200	1360	1360	1405
COIL							
Type		Copper Tube, Aluminium Plate Fins					
Row - Fins/in		2 - 15	3 - 15	4 - 15	3 - 15	4 - 15	3 - 15
Face Area	m²	0.343	0.343	0.343	0.437	0.437	0.613
FILTER							
Type		Washable / Throw Away					
Size (H x W x D)	mm	398 x 744 x 12			398 x 944 x 12		398 x 1344 x 12
Quantity	pcs	1					
CONNECTIONS							
Supply	Inch	1" BSPT MPT					
Return	Inch	1" BSPT MPT					
Drain Pipe	Inch	3/4" NPT MPT					
Net weight	Kg	66.00	67.00	69.00	92.00	97.00	115.00
DIMENSIONS							
Height	mm	480					
Width	mm	1000			1200		1600
Length	mm	680					

FLA: FULL LOAD AMPS

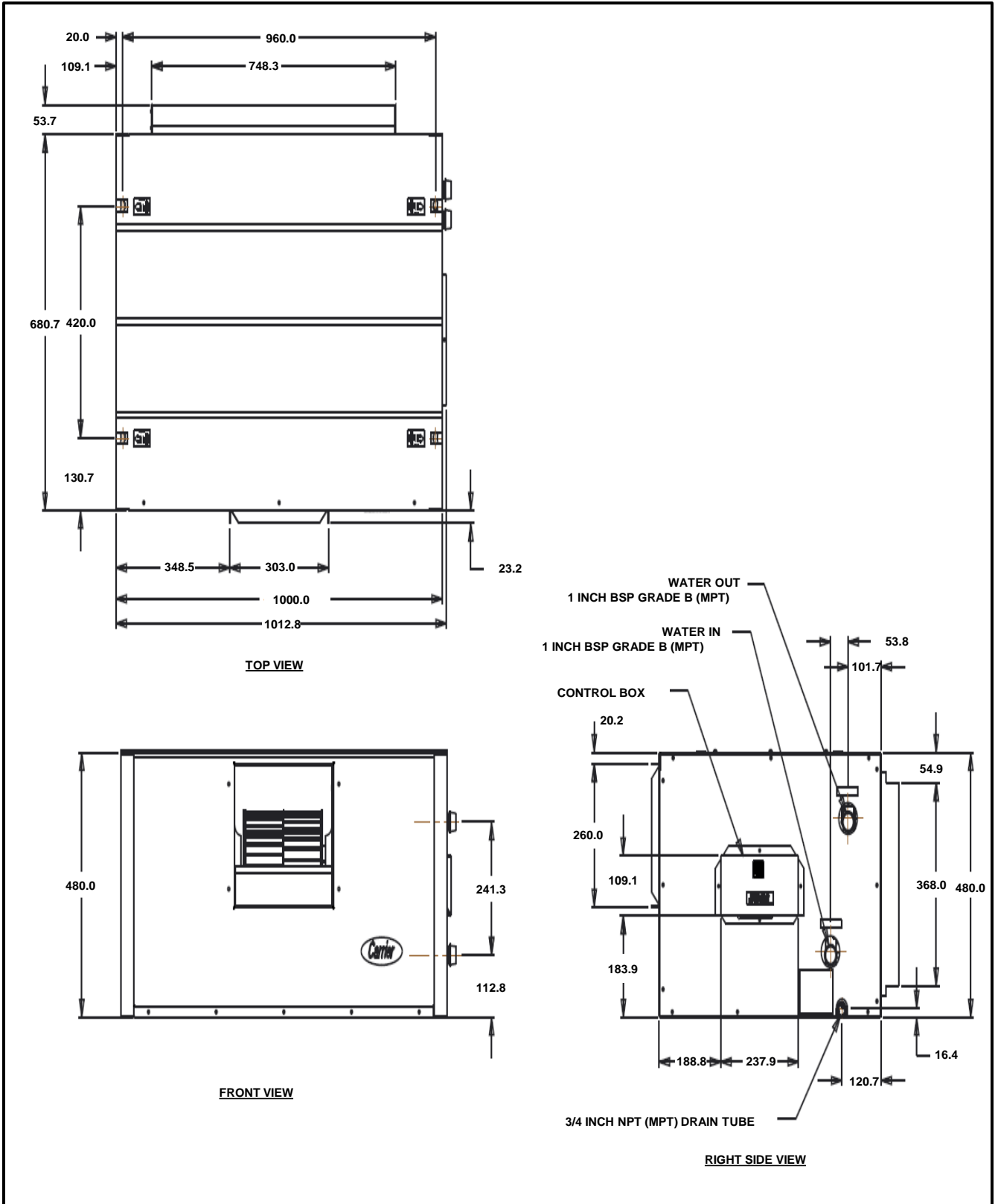
PHYSICAL DIMENSION – UNIT SIZE 40LM 040



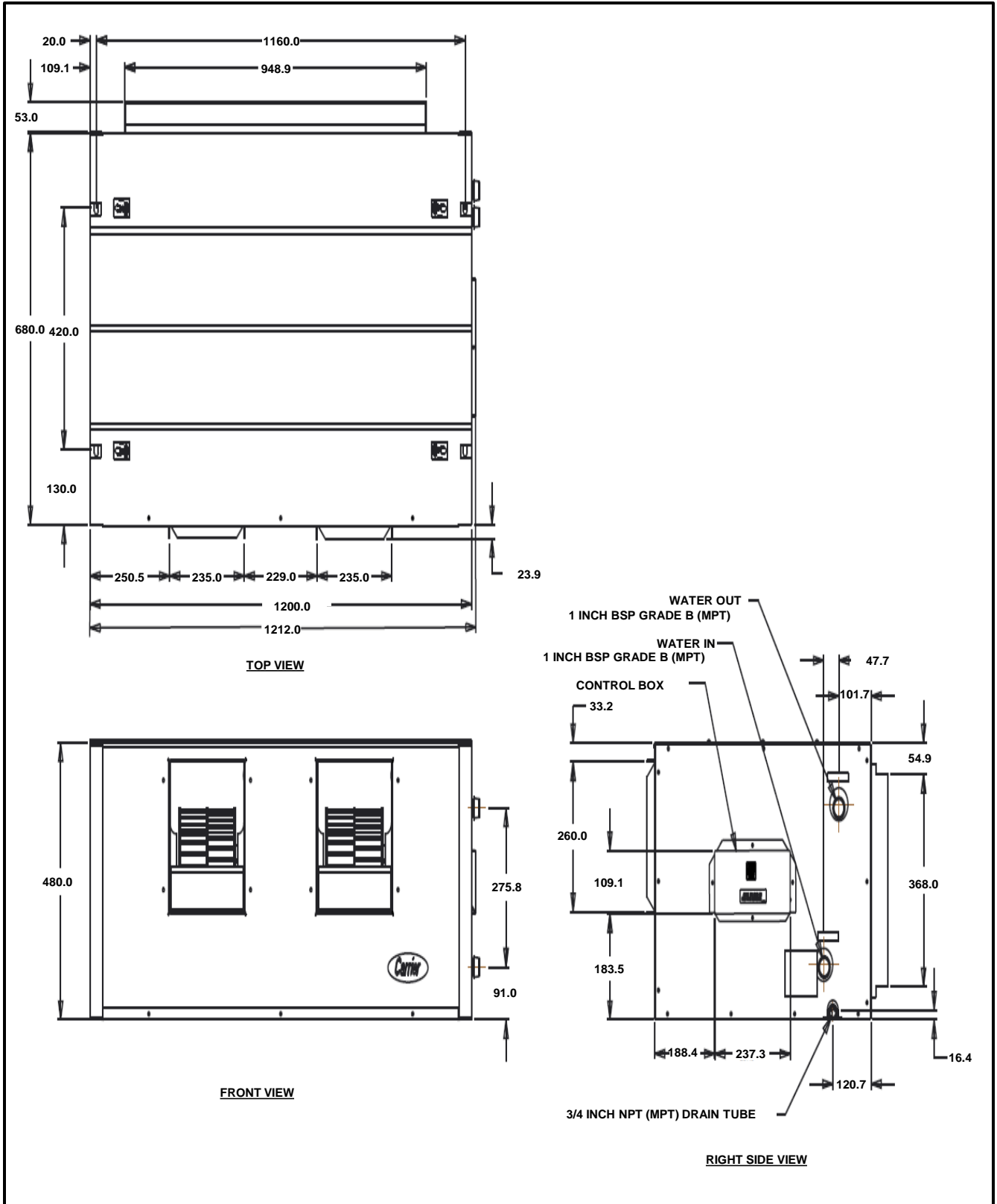
PHYSICAL DIMENSION – UNIT SIZE 40LM 050



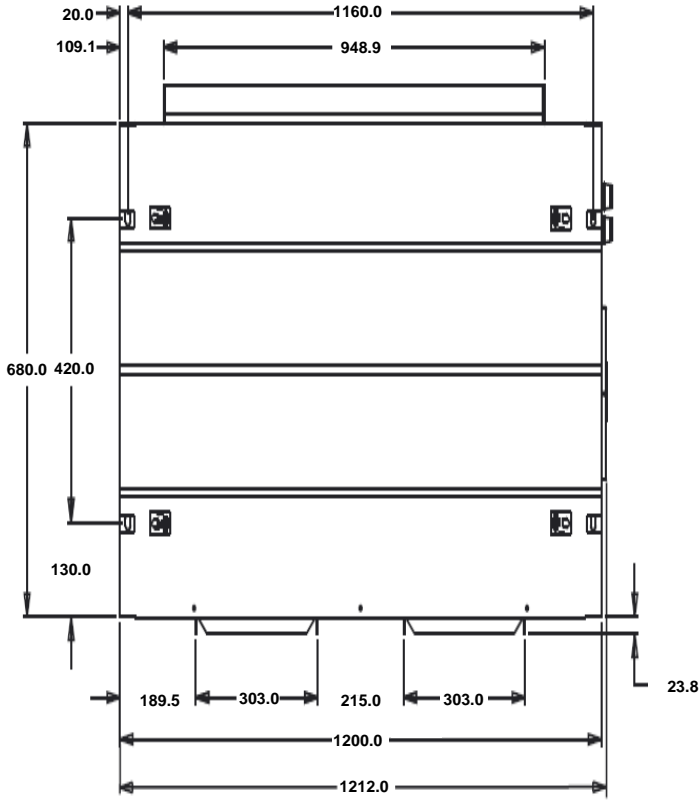
PHYSICAL DIMENSION – UNIT SIZE 40LM 060



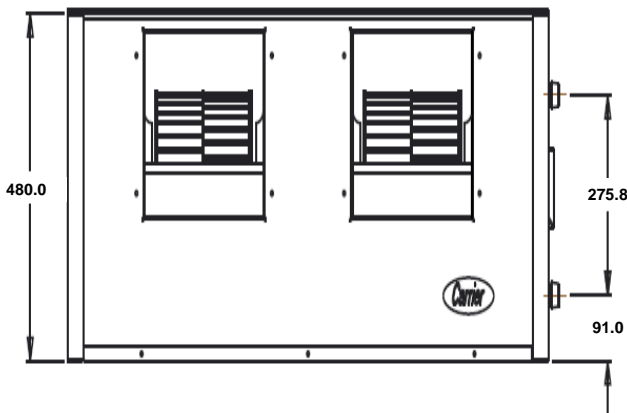
PHYSICAL DIMENSION – UNIT SIZE 40LM 070



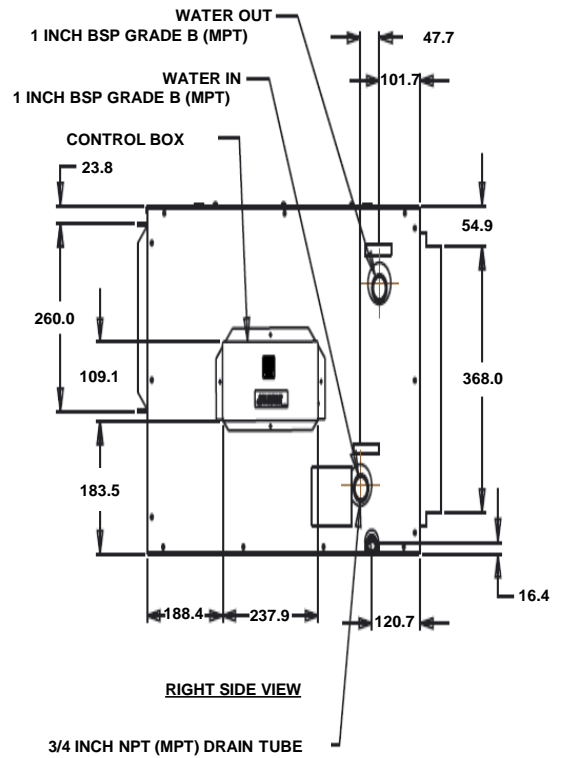
PHYSICAL DIMENSION – UNIT SIZE 40LM 090



TOP VIEW

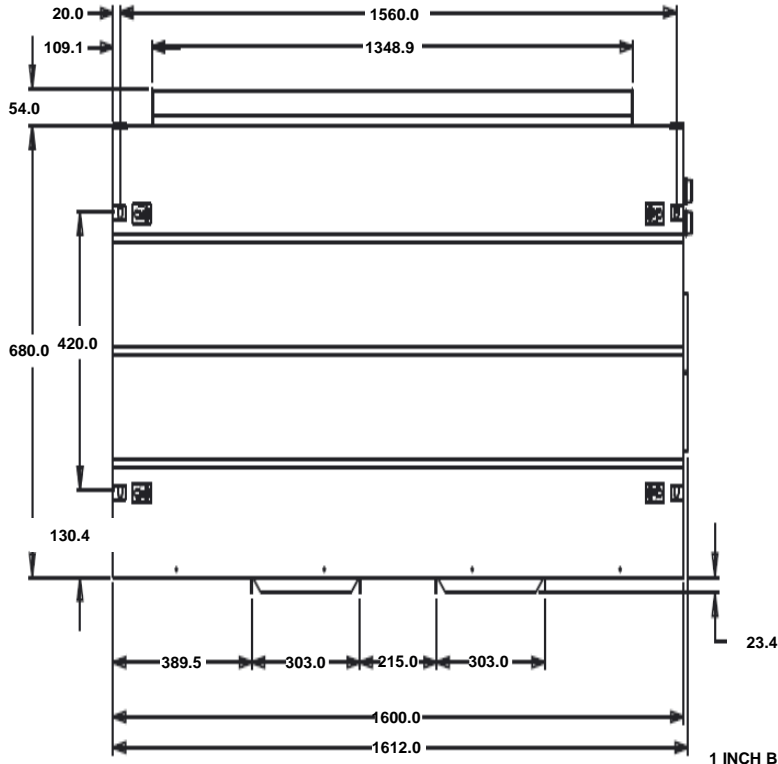


FRONT VIEW

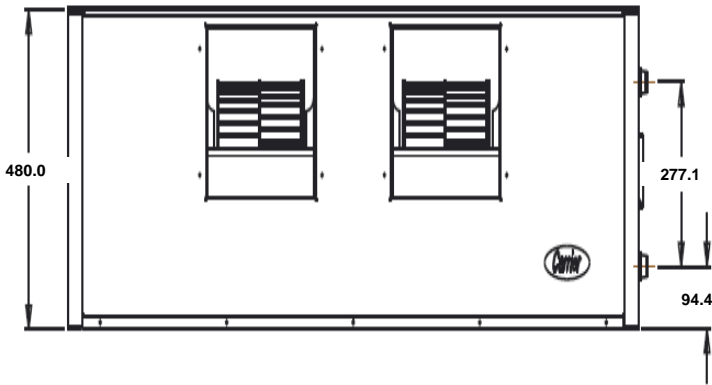


RIGHT SIDE VIEW

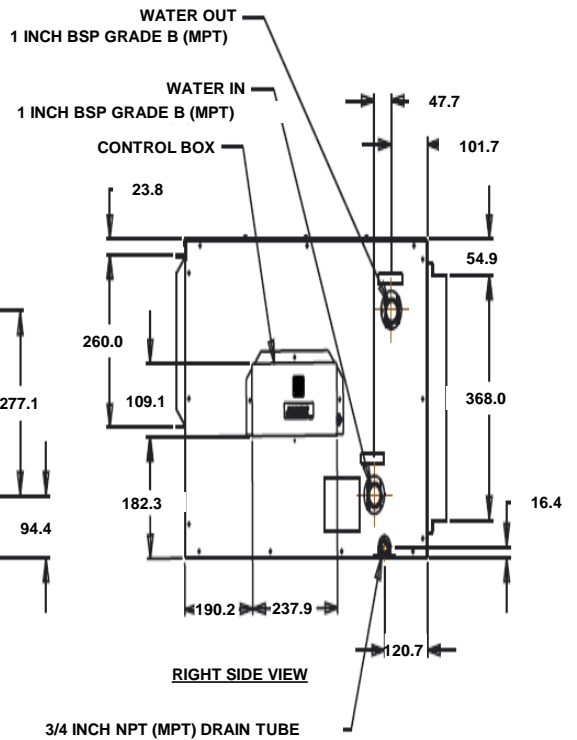
PHYSICAL DIMENSION – UNIT SIZE 40LM 100



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

PERFORMANCE DATA COOLING CAPACITIES

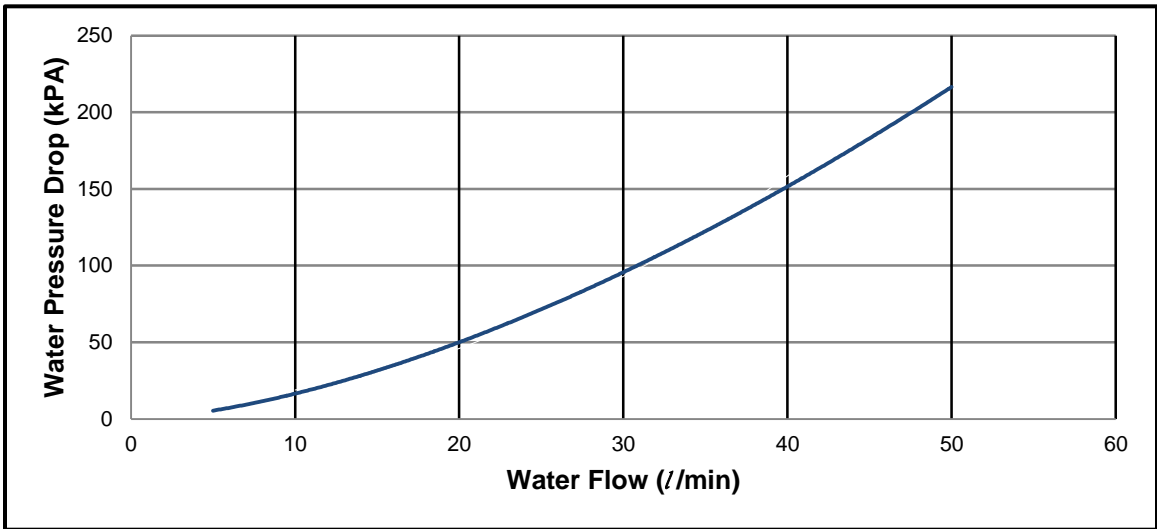
PERFORMANCE DATA 40LM 040~100									
Unit Sizes	Fan Speed	ESP Pa	Airflow (ℓ/s)	Capacity (kW)		Air Off FCU (°C)		Water Flow (ℓ/s)	Water Pressure (kPa)
				Total	Sensible	DB	WB		
40	High	50	597	9.18	7.46	16.5	15.2	0.39	42.7
	Medium		472	7.9	6.27	15.9	14.7	0.34	32.4
	Low		368	6.76	5.18	15.2	14.2	0.29	24.3
50	High	50	598	11.79	9.01	14.4	13.8	0.5	22.6
	Medium		473	10.17	7.58	13.6	13.2	0.43	17.6
	Low		402	9.15	6.7	13.1	12.8	0.39	14.3
60	High	50	689	14.27	10.69	14	13.5	0.61	9.1
	Medium		635	13.55	10.06	13.8	13.3	0.58	8.5
	Low		578	12.77	9.39	13.4	13.1	0.55	7.5
70	High	50	1115	19.19	15.05	15.7	14.6	0.82	67.1
	Medium		1039	18.12	14.21	15.5	14.5	0.77	60.2
	Low		957	17.14	13.35	15.3	14.4	0.73	53.8
90	High	50	1056	22.54	16.69	13.8	13.3	0.96	74.5
	Medium		993	21.66	15.96	13.6	13.1	0.93	69.4
	Low		913	20.55	15	13.3	12.9	0.88	63.3
100	High	50	1584	26.75	21.15	15.8	14.7	1.14	33.6
	Medium		1422	26.96	19.52	15.5	14.5	1.07	31.1
	Low		1200	22.47	17.26	15	14.1	0.96	24.7

TC : TOTAL HEAT CAPACITY (Kw)

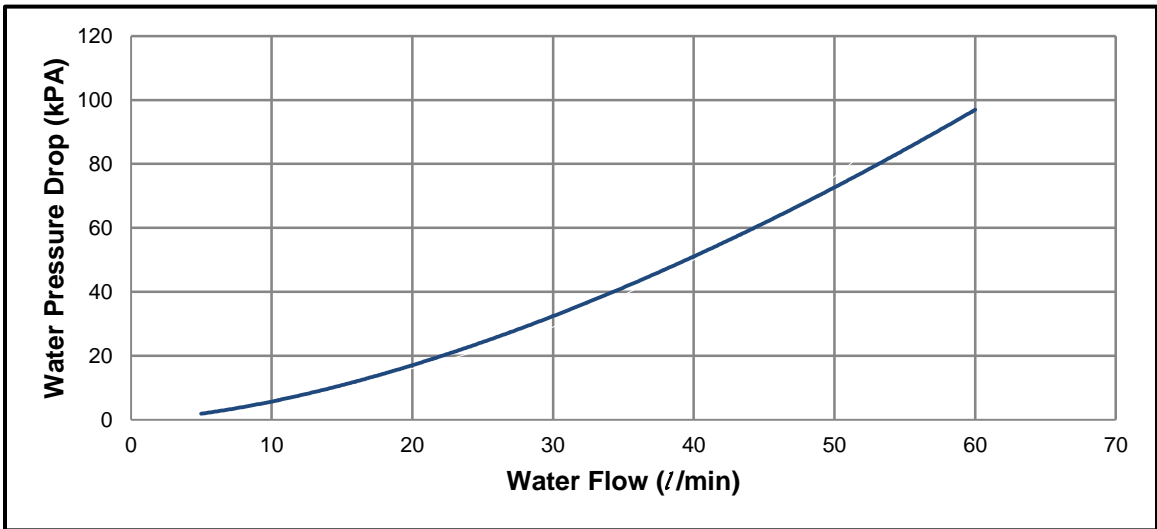
SHC : SENSIBLE HEAT COOLING CAPACITY (kW)

PERFORMANCE DATA PRESSURE DROP

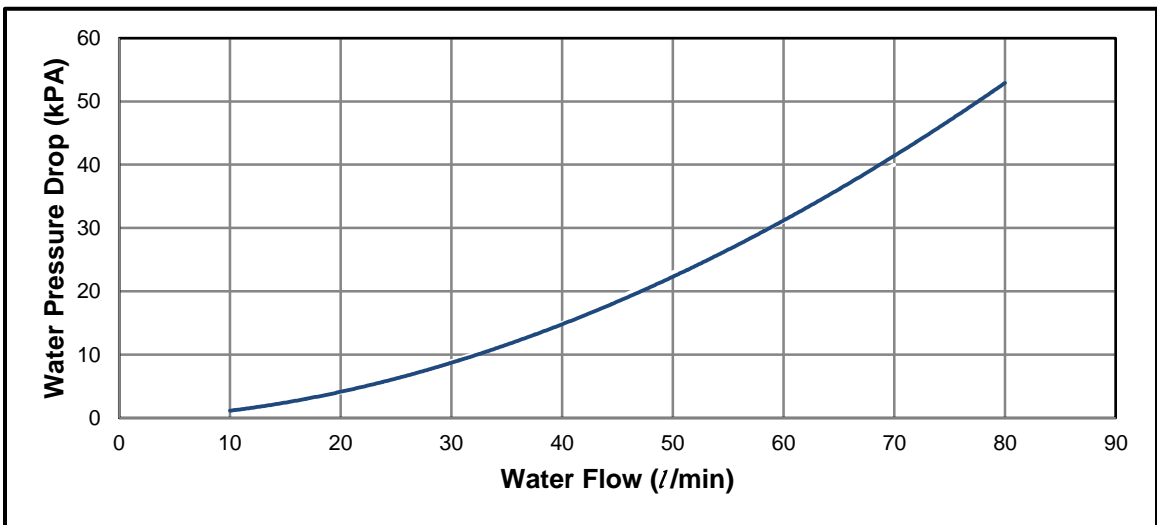
40LM040



40LM050

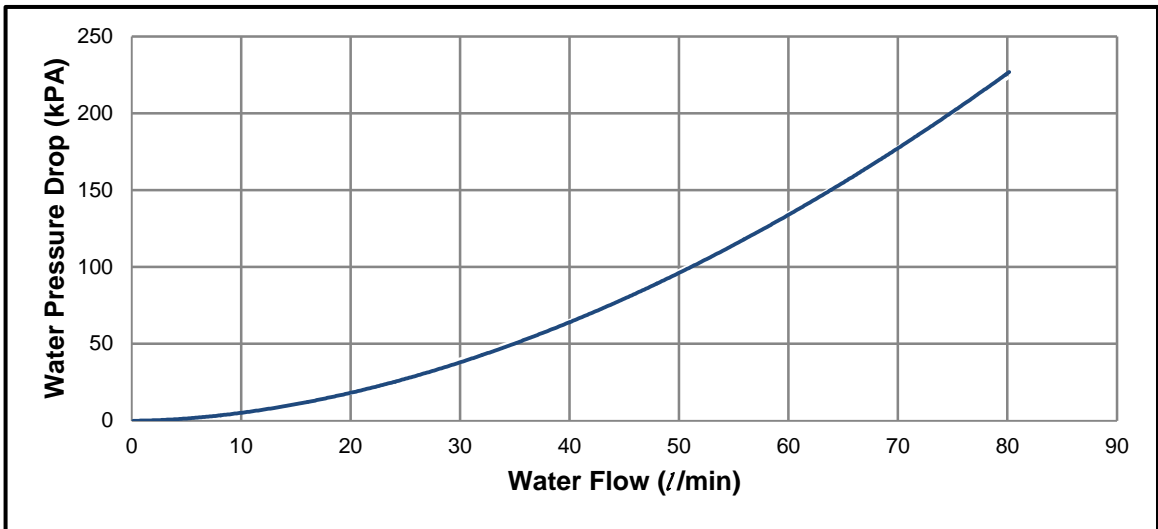


40LM060

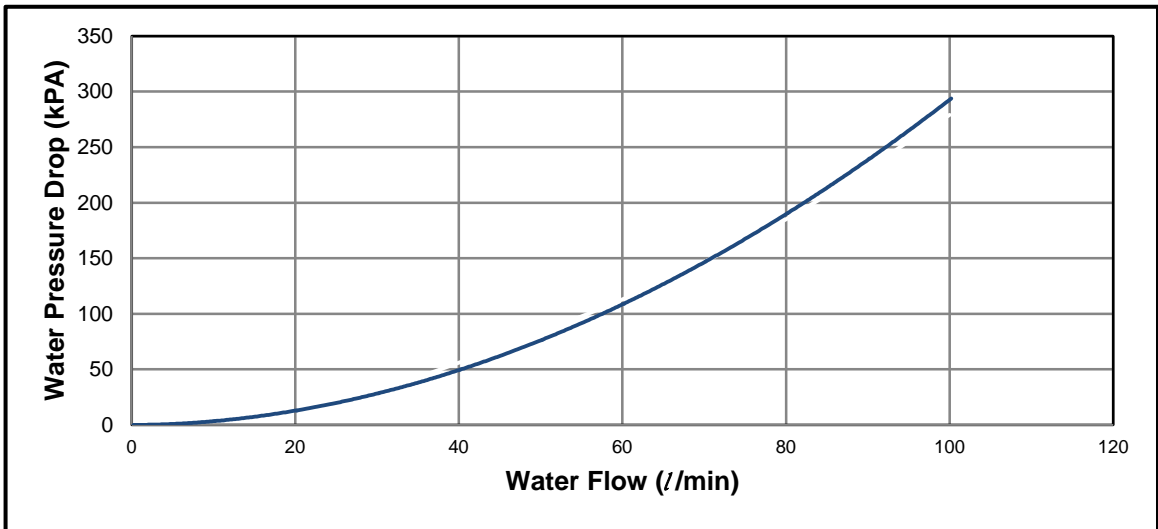


PERFORMANCE DATA COIL PRESSURE DROP

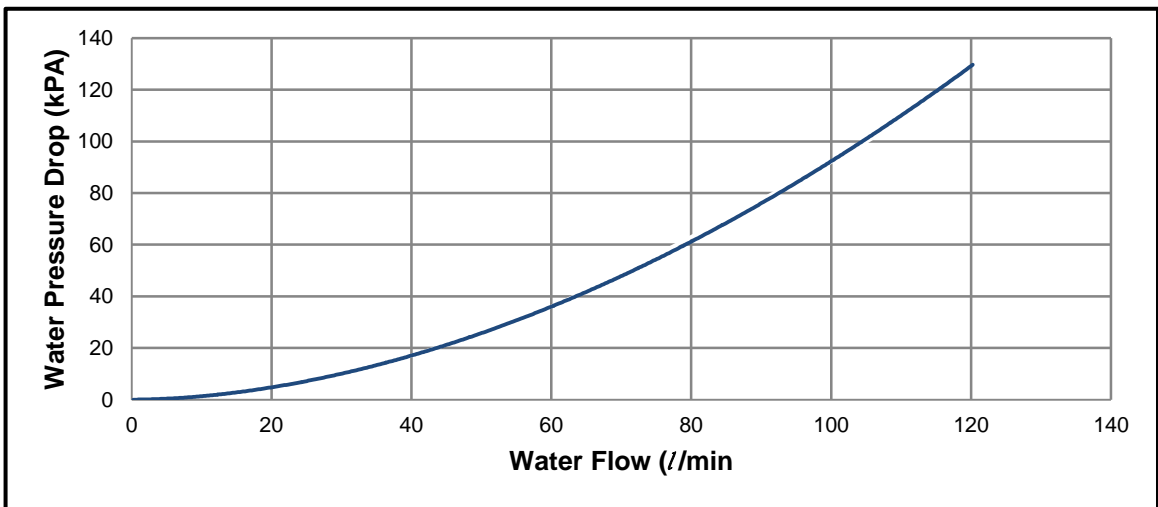
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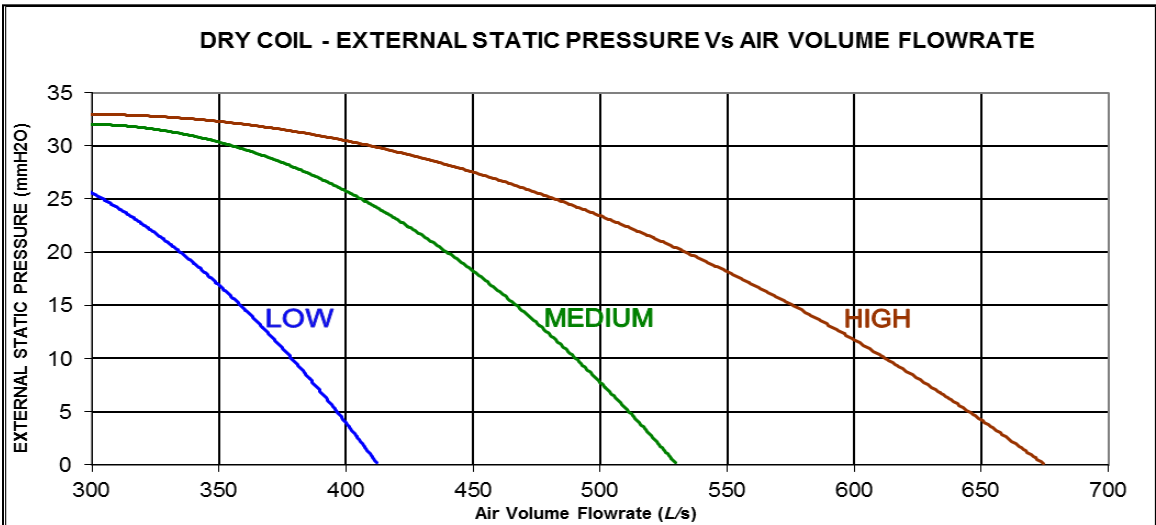
40LM090



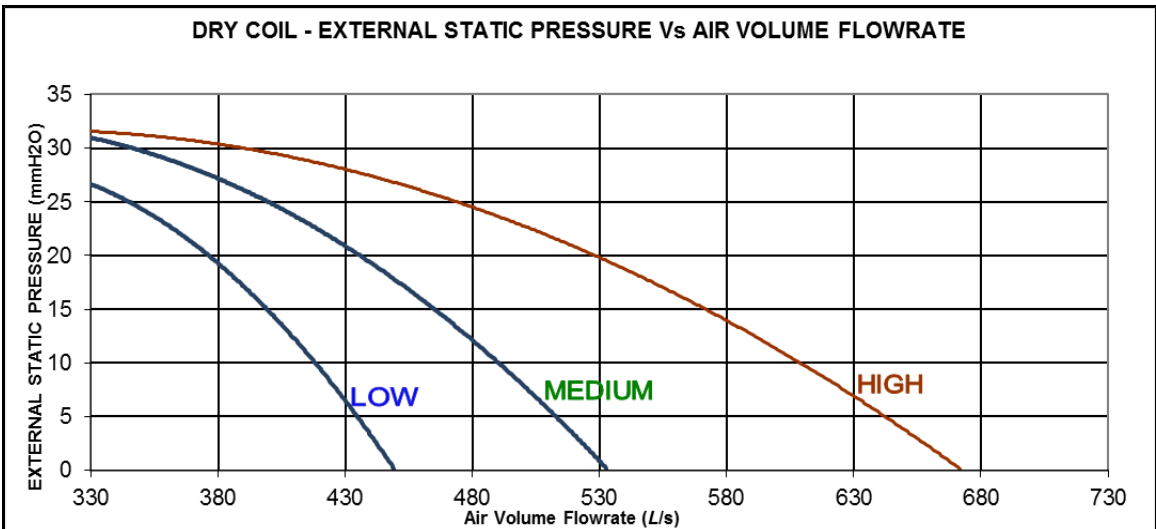
40LM100



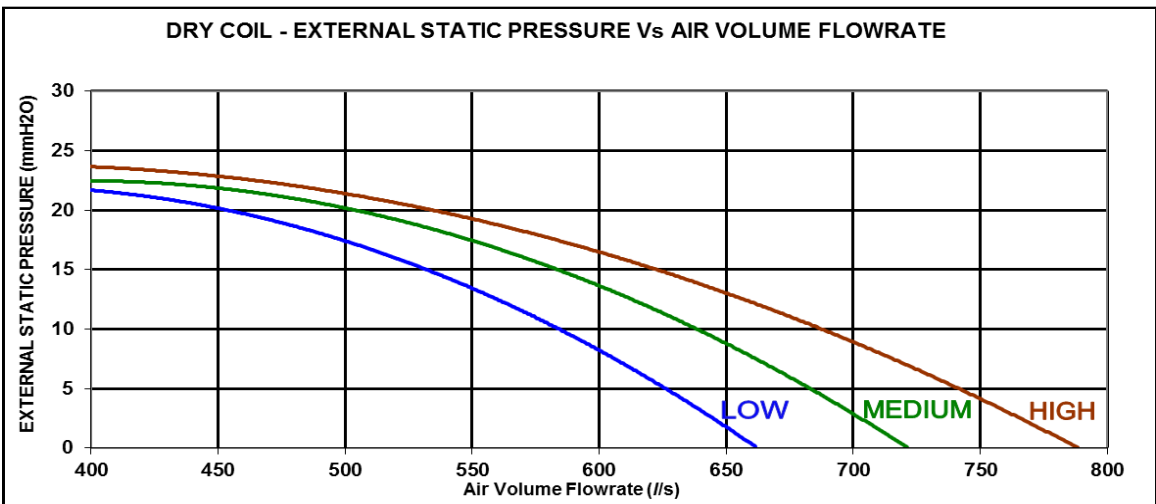
40LM040



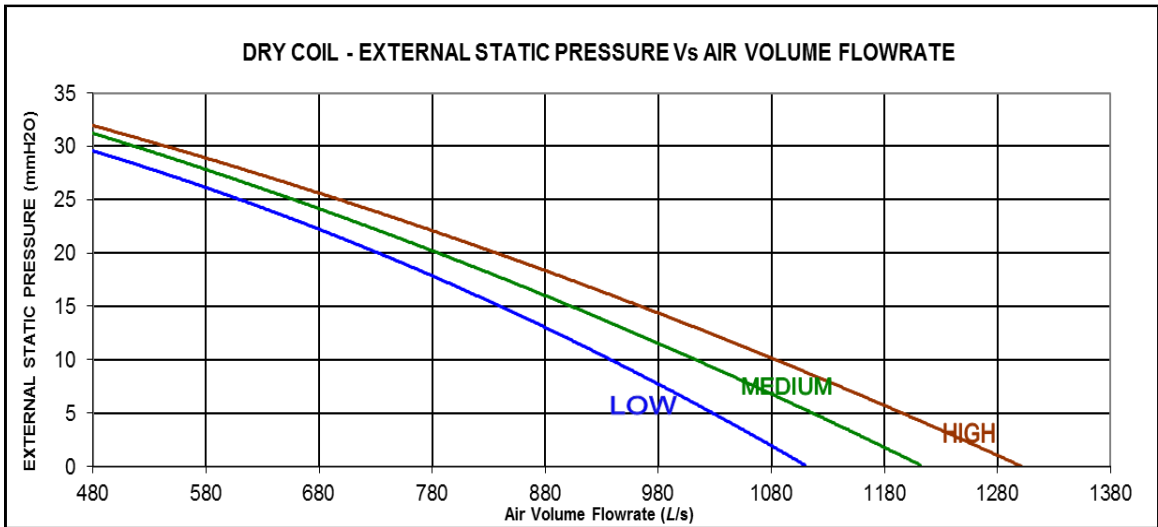
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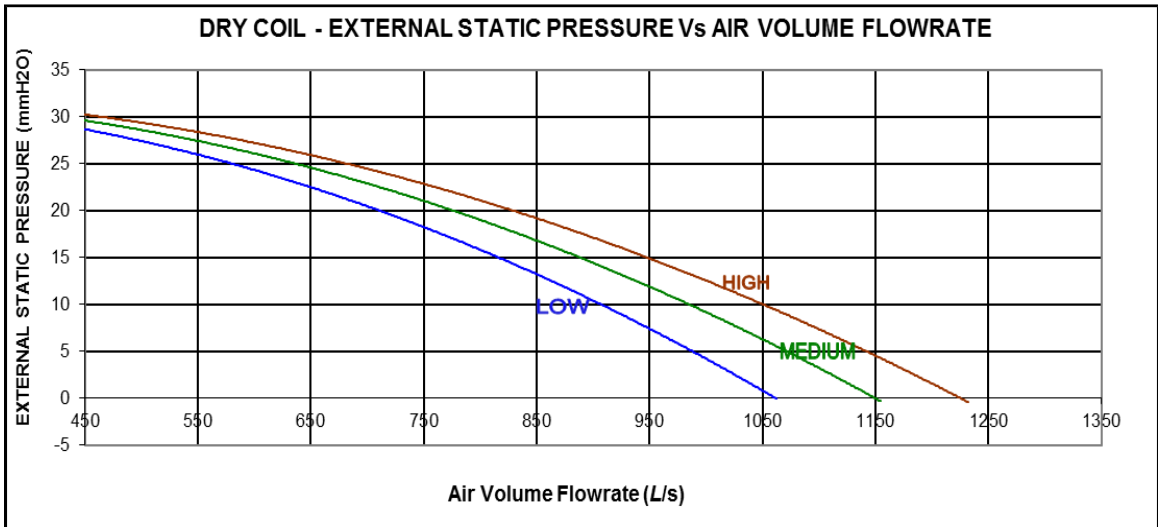
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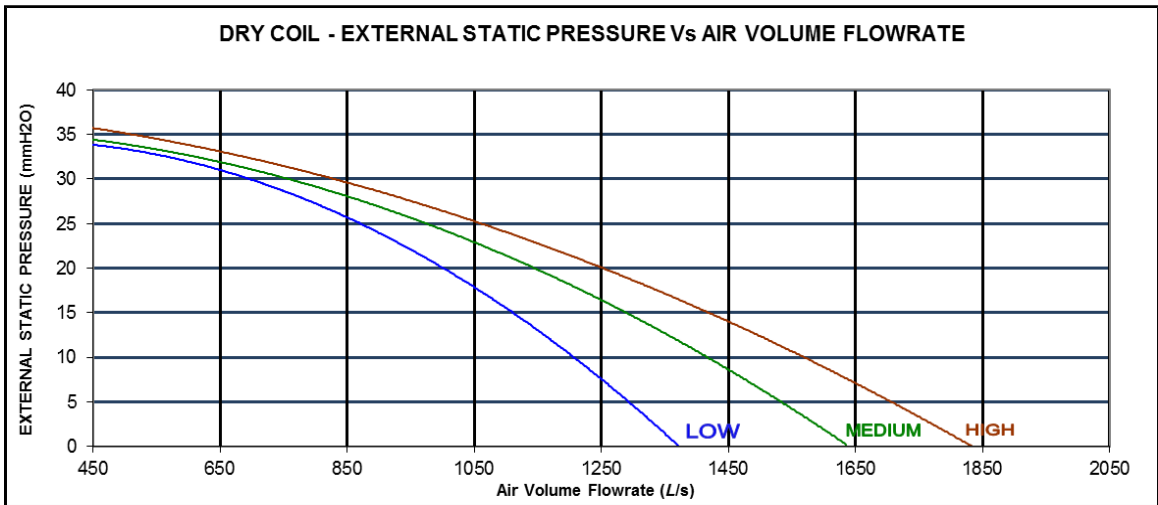
40LM070



40LM090



40LM100



SOUND PRESSURE LEVEL DATA

Model	Speed	Octave Band Centre Frequency, Hz								
		63	125	250	500	1K	2K	4K	8K	dBA
040	H	22	32	42	45	46	42	38	28	50
	M	20	28	36	41	42	39	33	22	46
	L	19	25	32	38	39	37	28	16	43
050	H	22	31	38	44	48	42	37	26	50
	M	30	29	35	41	43	39	32	20	47
	L	17	24	31	40	38	35	28	15	43
060	H	24	35	41	47	46	43	39	28	51
	M	21	32	37	45	43	41	36	25	49
	L	16	29	35	42	40	39	34	23	46
070	H	27	42	44	47	46	44	39	28	52
	M	26	37	39	45	44	42	37	27	50
	L	24	32	37	42	42	40	35	24	47
090	H	26	36	44	44	46	44	38	26	51
	M	25	35	32	44	45	43	37	26	50
	L	24	34	42	42	45	41	35	24	49
100	H	30	37	46	48	51	47	42	30	55
	M	28	35	34	45	48	45	39	29	52
	L	23	34	40	43	45	43	37	25	50

Note: Sound measurement in accordance with standard JIS B8616-2006 (1.5 Meter below the unit bottom) at 8mm ESP

ELECTRICAL DATA

40LM - 040				
Speed	Nominal Power Output	Power Input (Watts)	RPM	FLA (A)
High	315	805	1098	2.46
Medium		587	1029	
Low		474	930	

*FLA: Full Load Amps

40LM - 050				
Speed	Nominal Power Output	Power Input (Watts)	RPM	FLA (A)
High	315	764	1184	2.46
Medium		600	1022	
Low		475	912	

*FLA: Full Load Amps

40LM - 060				
Speed	Nominal Power Output	Power Input (Watts)	RPM	FLA (A)
High	462	679	1323	4.4
Medium		617	1278	
Low		563	1212	

*FLA: Full Load Amps

40LM - 070				
Speed	Nominal Power Output	Power Input (Watts)	RPM	FLA (A)
High	750	988	1380	4.55
Medium		859	1348	
Low		766	1300	

*FLA: Full Load Amps

40LM - 090				
Speed	Nominal Power Output	Power Input (Watts)	RPM	FLA (A)
High	750	1070	1372	4.55
Medium		919	1326	
Low		825	1272	

*FLA: Full Load Amps

40LM - 100				
Speed	Nominal Power Output	Power Input (Watts)	RPM	FLA (A)
High	800	1610	1334	7.4
Medium		1290	1259	
Low		1120	1169	

*FLA: Full Load Amps

Part 1 – GENERAL

1.1 System Description

Horizontal, furred-in, above ceiling for ducting room fan coil unit.

1.2 Quality Assurance

Unit shall be tested in accordance with ARI Standard 440. Each coil shall be factory tested for leakage at 400 psig air pressure with coil submerged in water. Factory is ISO-9001 certified.

1.3 Delivery Storage and Handling

Each unit shall be individually packaged from point of manufacture. Units shall be handled and stored in accordance with the manufacturer's instructions.

Part 2 – PRODUCTS

Equipment

2.1 General

Factory assembled, horizontal draw through type fan coil for furred-in ducted installations. Units shall be completed with water coil(s), fan(s), motor(s), drain pan, filters and all required wiring, collars for ducted units. Unit insulation and unit's drain pan insulation are UL94 compliance.

2.2 40LM Furred-in Units

Base 40LM unit with factory installed plenum section and cleanable filter as shown on equipment drawings. The plenum shall be rear air return. Shall enclose the fan/motor assemblies, and shall be lined with 12.7mm thick PU insulation 20kg/m³ density and 6.0mm PE insulation 28.6kg/m³ density on the drain pan. Unit shall have a removable panel to provide access to fan/motor assemblies and unit identification label.

2.3 40LM Horizontal Base Unit with Plenum for Concealed Installations

Unit has a factory installed, galvanized steel plenum section and one-in permanent filter. The plenum shall be rear return, lined with 12.7mm PU insulation 20kg/m³ and 6.0mm PE insulation 28.6kg/m³ on the drain pan, and include a removable panel to provide access to the fan/motor assembly.

2.4 Fan

Direct driven, double width fan wheel with forward curved blades shall be statically and dynamically balanced. Fan wheels shall be constructed of high density reinforced polypropylene.

2.5 Coils

Drain pan covers entire length and width of coil till the headers. Drain pan inside coated and outside insulated. Standard base unit shall be equipped with a 4-row coil for installation in a 2-pipe system. Coils shall have 9.5mm copper tubes, aluminum fins bonded to the tubes by mechanical expansion. Each coil shall have a manual air vent and threaded connections field piping. Working pressure 1.72 Mpa, 0.105mm fin thickness and 0.24mm tube wall thickness.

2.6 Operating Characteristics

A one coil unit installed in a 2-pipe system shall be capable of providing cooling as determined by the operating mode of the central water supply system.

2.7 Electrical Requirements

Standard unit shall operate on 230V±10%, single phase, 50Hz electric power.

2.8 Motor(s)

Fan motors shall be 3-speed, 230V, single phase, 50Hz permanent split capacitor type, with ball type bearings and over-sized oil reservoirs to ensure lubrication. The fan motor(s) shall be equipped with integral automatic temperature reset for motor protection. Motor insulation is Class E and motor is open drip proof type.

2.9 Filter

Permanent washable synthetic media filters with 12mm thick and G2 filter class as per European Union EN779



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Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.