

# CHILLED WATER FAN COIL UNITS

AWM, ACK, ACM, ACC, ADB Series

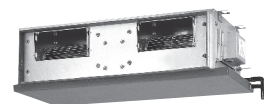


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\* All specifications stated in this technical manual are for Cooling Only unit. Please contact us for more information about Heat Pump unit.



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### CAUTION

#### HIGH VOLTAGE

is used in the operation of this equipment.

#### DEATH OR SERIOUS INJURY

may result if personnel fail to observe safety precautions.

Work on electronic equipment should not be undertaken unless the individual(s) have been trained in the proper maintenance of equipment and is(are) familiar with its potential hazards.

Shut off the power supply to equipment before beginning work and follow lockout procedures. When working inside equipment with power off, take special care to discharge every capacitor likely to hold dangerous potential.

Be careful not to contact high voltage connections when installing or operating this equipment.

#### LOW VOLTAGE

DO NOT be misled by the term 'low voltage' Voltages as low as 50 volts may cause death.

# NOMENCLATURE

**A WM 10 L W**

**Brand**  
A: Acson

**Product Type**  
WM : Wall Mounted Type  
CK : Ceiling Cassette Type  
CE : Ceiling Mounted Type  
CC : Ceiling Concealed Type  
DB : Ducted Type

**Size**  
10 : 10,000 Btu/hr  
20 : 20,000 Btu/hr  
30 : 30,000 Btu/hr

**Model**  
W : Chilled Water Fan Coil

**Product Series**  
B : B Series  
C : C Series  
E : E Series  
L : L Series

## Product Line-Up

### Chilled Water Fan Coil Units

Model	Classification																		
	PCB					Handset			Control			Connection			Air Discharge		Filter		
	50WJWXX*	UCW_W2.0*	W2_L*	W3*	Without Controller	GS02	SLM3	SLM9	Auto Air Swing	Turbo	Quiet	1/2" BSP (Female) Brass Adaptor	3/4" BSP (Female) Brass Union	1 1/8" Brazing (OD28.6mm)	Horizontal Flow	Vertical Flow	Convertible	Saranet Filter	AAF R29
AWM07LW	X					X		X	X	X	X							X	
AWM10LW	X					X		X	X	X	X							X	
AWM15LW	X					X		X	X	X	X							X	
AWM20LW	X					X		X	X	X	X							X	
AWM25LW	X					X		X	X	X	X							X	
AWM301W			X			X		X	X		X							X	
ACK10CW		X				X			X				X					X	
ACK15CW		X				X			X				X					X	
ACK20CW		X				X			X				X					X	
ACK20EW				X		X		X		X			X					X	
ACK25EW				X		X		X		X			X					X	
ACK30EW				X		X		X		X			X					X	
ACK40EW				X		X		X		X			X					X	
ACK50EW				X		X		X		X			X					X	
ACM15EW		X				X		X	X				X					X	
ACM20EW		X				X		X	X				X					X	
ACM25EW		X				X		X	X				X					X	
ACC10CW		X						X					X		X			X	
ACC15CW		X						X					X		X			X	
ACC20CW		X						X					X		X			X	
ACC25CW		X						X					X		X			X	
ACC30CW		X						X					X		X			X	
ACC40CW		X						X					X		X			X	
ACC50CW		X						X					X		X			X	
ACC60CW		X						X					X		X			X	

Model	Classification																		
	PCB					Handset			Control			Connection			Air Discharge		Filter		
	50WJWXX*	UCW_W2.0*	W2_L*	W3*	Without Controller	GS02	SLM3	SLM9	Auto Air Swing	Turbo	Quiet	1/2" BSP (Female) Brass Adaptor	3/4" BSP (Female) Brass Union	1 1/8" Brazing (OD28.6mm)	Horizontal Flow	Vertical Flow	Convertible	Saranet Filter	AAF R29
ADB75BW					X										X			X	
ADB100BW					X										X			X	
ADB125BW					X										X	X		X	X
ADB150BW					X										X	X		X	X

\* PCB naming

# APPLICATION INFORMATION

## Model: AWM-LW

### Operating Limits:

Thermal carrier : Water  
 Water temperature : 4°C ~ 10°C (Cooling), 35°C ~ 50°C (Heating)  
 Maximum water pressure : 16 bar  
 Air temperature : (as below)

### Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

### Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	15.0 / 59.0	-
Maximum indoor temperature	27.0 / 80.6	-

Ts: Dry bulb temperature. Th: Wet bulb temperature.

## Model: AWM301W

### Operating Limits:

Thermal carrier : Water  
 Water temperature : 4°C ~ 10°C (Cooling), 35°C ~ 50°C (Heating)  
 Maximum water pressure : 16 bar  
 Air temperature : (as below)

### Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

### Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	-
Maximum indoor temperature	30.0 / 86.0	-

Ts: Dry bulb temperature. Th: Wet bulb temperature.

## Model: ACK-CW

### Operating Limits:

Thermal carrier : Water  
 Water temperature : 4°C ~ 10°C (Cooling), 35°C ~ 50°C (2 Pipes) (Heating)  
 Maximum water pressure : 16 bar  
 Air temperature : (as below)

### Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

### Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	15.0 / 59.0	-
Maximum indoor temperature	27.0 / 80.6	-

Ts: Dry bulb temperature. Th: Wet bulb temperature.

## Model: ACK-EW

### Operating Limits:

Thermal carrier : Water  
 Water temperature : 4°C ~ 10°C (Cooling), 35°C ~ 50°C (2 Pipes) (Heating)  
 Maximum water pressure : 16 bar  
 Air temperature : (as below)

### Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	11.0 / 51.8
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

### Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	-
Maximum indoor temperature	30.0 / 86.0	-

Ts: Dry bulb temperature. Th: Wet bulb temperature. 4

**Model: ACM-EW****Operating Limits:**

Thermal carrier : Water

Water temperature : 5 ~ 50°C

Maximum water pressure : 16 bar

Air temperature : (as below)

**Cooling Mode**

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

**Heating Mode**

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	15.0 / 59.0	-
Maximum indoor temperature	27.0 / 80.6	-

Ts: Dry bulb temperature.

Th: Wet bulb temperature.

**Model: ACC-CW****Operating Limits:**

Thermal carrier : Water

Water temperature : 4 ~ 10°C (Cooling), 35°C ~ 50°C (Heating)

Maximum water pressure : 16 bar

Air temperature : (as below)

**Cooling Mode**

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

**Heating Mode**

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	15.0 / 59.0	-
Maximum indoor temperature	27.0 / 80.6	-

Ts: Dry bulb temperature.

Th: Wet bulb temperature.

**Model: ADB-BW****Operating Limits:**

Thermal carrier : Water

Water temperature : 4°C ~ 10°C (Cooling), 35°C ~ 70°C (Heating)

Maximum water pressure : 16 bar

Air temperature : (as below)

**Cooling Mode**

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

**Heating Mode**

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	15.0 / 59.0	-
Maximum indoor temperature	27.0 / 80.6	-

Ts: Dry bulb temperature.

Th: Wet bulb temperature.

## Installation Guide

### System Configuration

The standard controller board comes with a VALVE jumper and a HEAT jumper. The system can be configured as the jumper selection listed below:

	HEAT Jumper	VALVE Jumper
Heatpump Mode & Valve Application	√	√
Heatpump Mode & Valveless Application	√	X
Cooling Mode & Valve Application	X	√
Cooling Mode & Valveless Application	X	X

√ Jumper Remained

X Jumper Removed

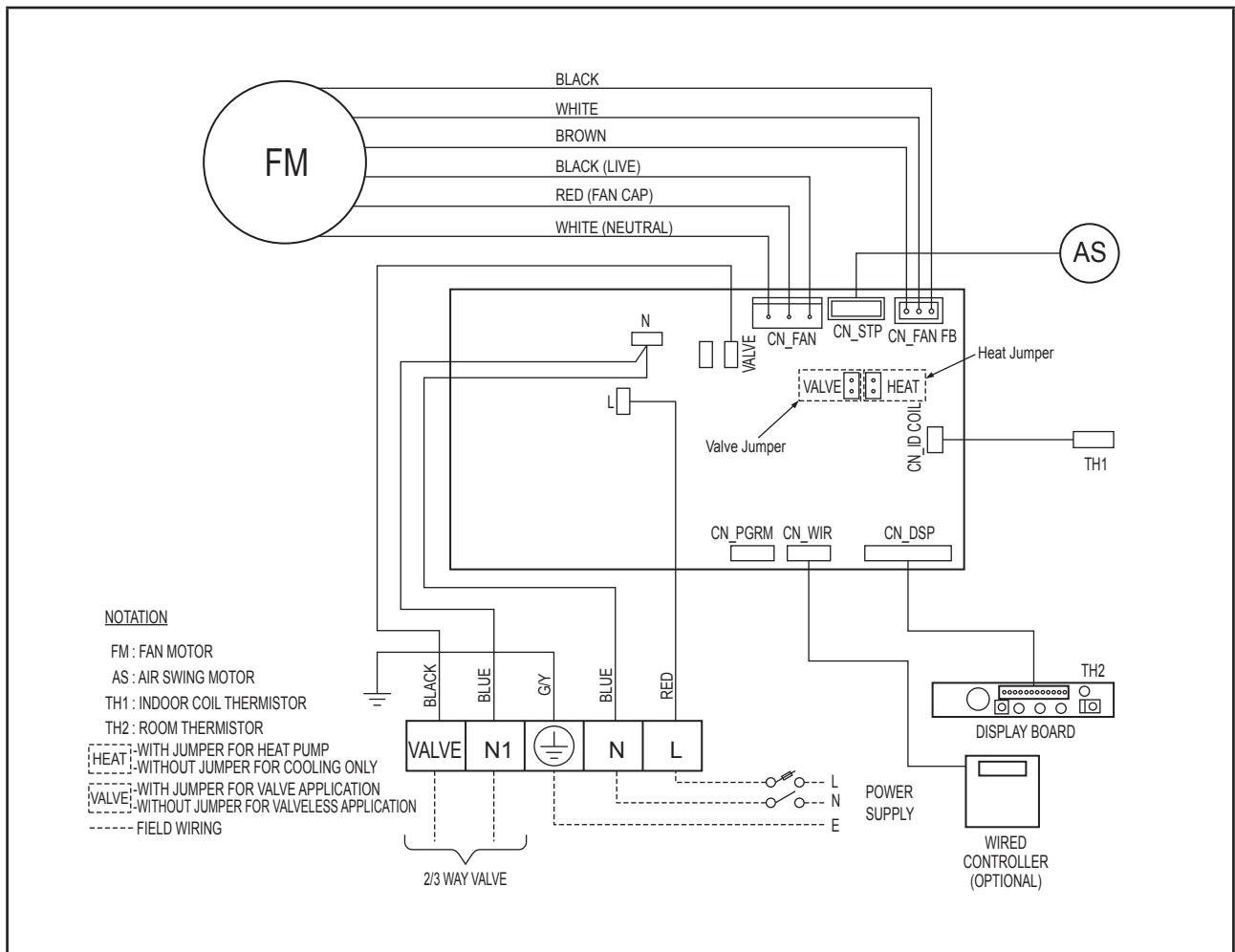


**Caution**

**Disconnect the power supply to the unit before attempting to connect the wiring**

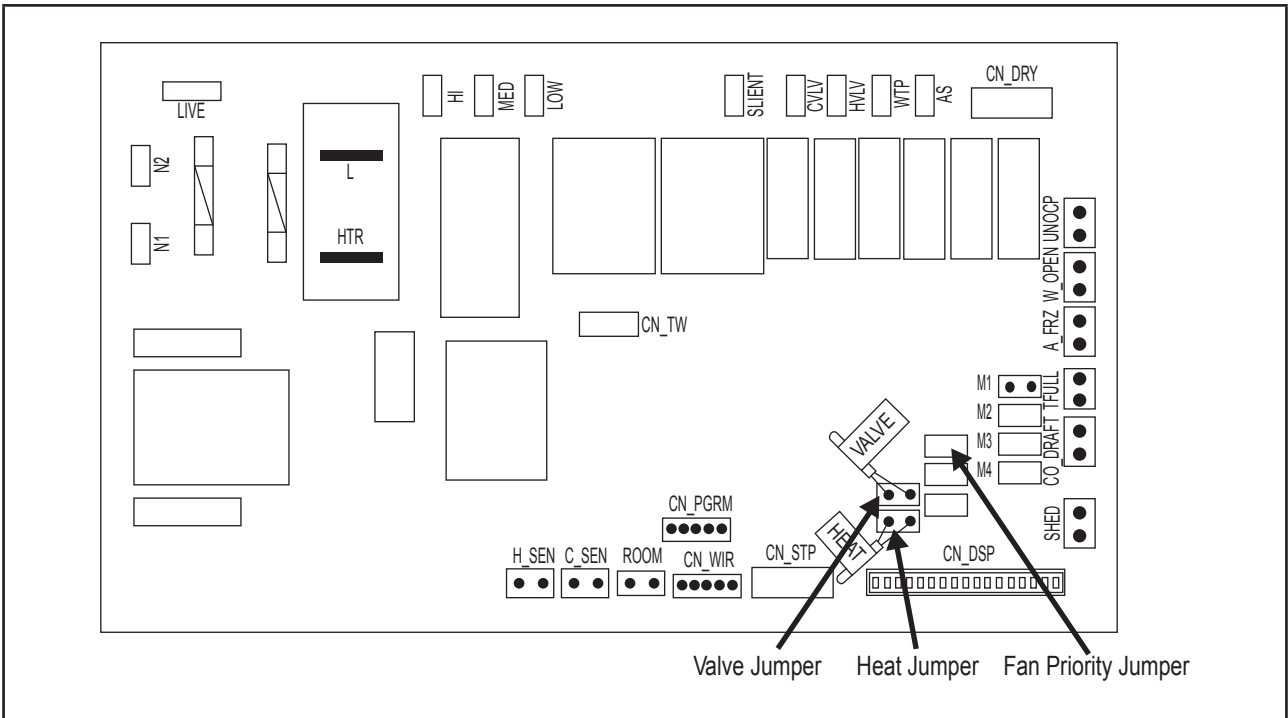
### Valve, Heat and Fan Priority Setting

#### Model: AWM-LW





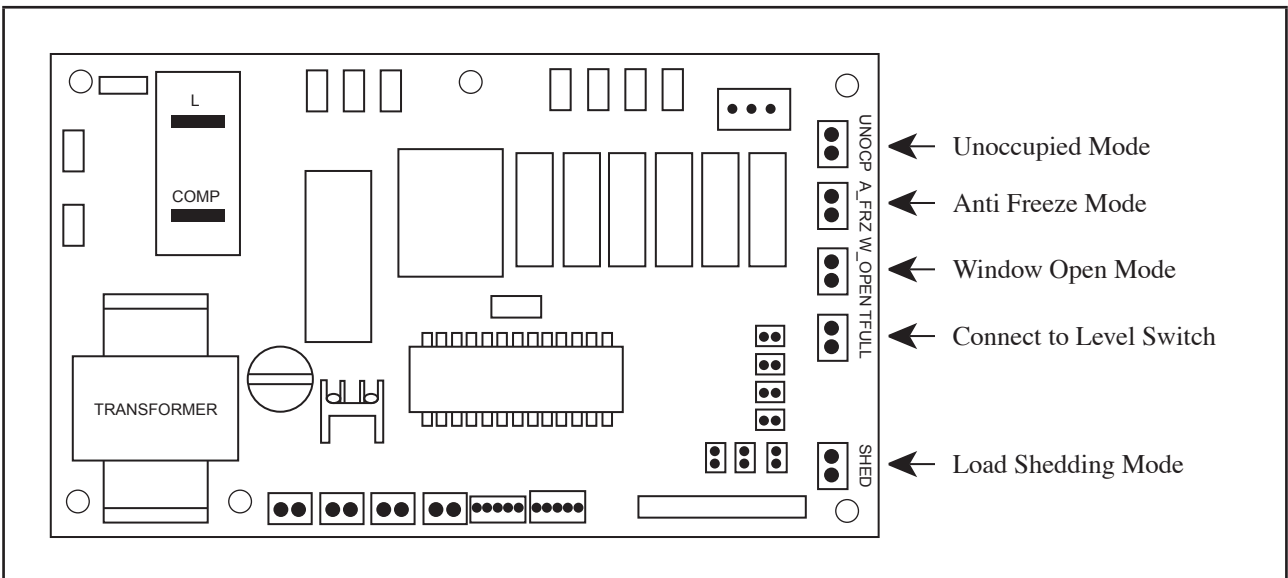
**Model: ACK-CW/EW, ACM-EW, ACC-CW**



Jumper	With Jumper (Default)	Without Jumper
Fan Priority Jumper	User set speed or lower fan if auto mode is selected	Fan Stop when thermostat cut off
Heat Jumper	For Heat pump	For Cooling only
Valve Jumper	For valve control	For valveless control

**Others**

The controller board comes with other option.

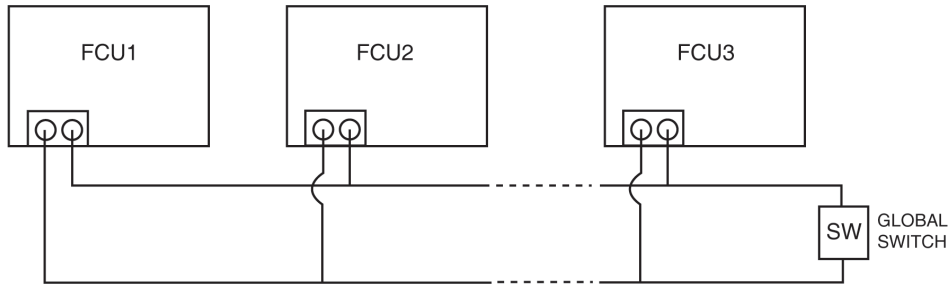


i) Unoccupied Mode

If the dry contact is closed, the Unoccupied mode is activated and vice versa. When Timer On is active, system goes back to Occupied mode.

The dry contact connection points can be connected parallel with other fan coil unit (FCU) boards. If the dry contact is closed, Unoccupied mode will be activated on all fan coil units that are connected parallel as shown in figure below.

- ii) Anti Freeze Mode  
Anti Freeze operation has the highest priority among all unit operation. Anti Freeze operation will be activated only if dry contact is closed and vice versa.
- iii) Window Open Mode  
The dry contact connection points can be connected in parallel with other fan coil unit (FCU) boards. If the dry contact is closed, Window open mode will be activated on all the fan coil units which are connected in parallel as shown in figure below.
- iv) Load Shedding  
The dry contact connection points can be connected in parallel with other fan coil unit (FCU) boards. If the dry contact is closed, Load shedding mode will be activated on all the fan coil units which are connected in parallel as shown in figure below.



Global Unoccupied, Global Window Open and Global Load Shedding operation could also be activated via the network communication bus line by master controller with or without the above connection.

**NOTE :**

- i) Auto Fan Mode is only applicable in Model 3 only. (Cooling only with Boiler)
- ii) Fan mode is not available in valveless control.
- iii) Wired handset has an indoor room sensor. Avoid locating the wired handset at isolated places where room temperature reading will be inaccurate.

**Cable Size**

Model	Unit	AWM-LW / ACK-CW / ACK-EW / ACM-EW
Power supply cable size*	mm <sup>2</sup>	1.5
Number of wire		3
Recommended fuse*	A	2

Model	Unit	ACC10CW	ACC15CW	ACC20/25CW
Power supply cable size*	mm <sup>2</sup>	1.5	1.5	1.5
Number of wire		3	3	3
Recommended fuse*	A	1	2	4

Model	Unit	ACC30CW	ACC40/50CW	ACC60CW
Power supply cable size*	mm <sup>2</sup>	1.5	1.5	2.5
Number of wire		3	4	3
Recommended fuse*	A	8	10	12

Model	Unit	ADB75/100BW	ADB125/150BW	AWM301W
Power supply cable size*	mm <sup>2</sup>	1.5	1.5	2.5
Number of wire		3	4	3
Recommended fuse*	A	5	5	20

**Important:** \* These values are for information only. They should be checked and selected to comply local or national codes and regulations. They are also subjected to the type of installation and size of conductors.

# SOUND DATA

## Sound Pressure Level

Model	Speed	1/1 Octave A-Weighted Sound Pressure (dBA), ref 20 $\mu$ Pa							Overall (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
AWM07LW	High	31	32	33	28	26	14	6	34	28
	Med	25	29	28	24	19	9	5	29	22
	Low	20	26	24	20	11	8	6	25	18
AWM10LW	High	30	33	33	32	28	17	8	35	31
	Med	26	29	30	27	21	11	7	30	25
	Low	19	25	25	21	14	6	6	25	19
AWM15LW	High	41	39	39	38	36	26	14	42	38
	Med	38	36	37	34	32	22	10	39	33
	Low	30	30	31	28	23	12	7	32	26
AWM20LW	High	37	38	38	39	33	22	11	42	38
	Med	33	35	35	35	29	17	8	38	34
	Low	29	33	32	31	23	12	7	34	30
AWM25LW	High	42	42	42	42	40	31	21	46	42
	Med	37	38	39	38	34	24	13	42	37
	Low	34	35	36	35	30	20	9	39	34
AWM301W	High	42	46	45	44	41	35	28	49	43
	Med	40	45	44	43	38	33	27	47	42
	Low	37	43	43	40	35	30	26	45	39

Microphone position: 1m in front and 0.8m below the vertical centre line of the unit.

Model	Speed	1/1 Octave A-Weighted Sound Pressure (dBA), ref 20 $\mu$ Pa							Overall (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
ACK10CW	High	44	45	40	36	26	19	10	42	35
	Med	40	38	34	28	19	9	7	35	29
	Low	37	32	27	20	14	7	7	29	21
ACK15CW	High	48	48	44	39	31	27	15	45	39
	Med	42	42	36	30	22	13	7	38	31
	Low	39	36	28	20	15	6	6	30	23
ACK20CW	High	52	51	46	41	34	31	19	48	41
	Med	44	43	39	33	26	18	8	40	33
	Low	41	39	35	28	22	11	7	36	30

Microphone position: 1.4m below the face center of the air return of the unit.

Model	Speed	1/1 Octave A-Weighted Sound Pressure (dBA), ref 20 $\mu$ Pa							Overall (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
ACK20EW	High	44	43	42	35	29	23	15	42	37
	Med	40	40	38	30	23	16	14	38	33
	Low	35	34	32	23	15	10	14	32	26
ACK25EW	High	48	47	45	39	34	28	17	46	40
	Med	44	42	42	34	28	21	10	42	37
	Low	39	37	36	26	19	10	6	35	31
*ACK30EW	High	49	48	46	42	37	35	22	48	41
	Med	44	44	42	36	32	27	14	43	37
	Low	41	39	37	31	26	17	8	38	32
*ACK40EW	High	51	49	49	45	37	36	24	50	45
	Med	48	46	47	40	33	31	18	47	43
	Low	44	42	43	35	28	23	10	43	38
*ACK50EW	High	53	54	50	47	39	38	28	52	46
	Med	49	48	47	43	36	35	25	49	43
	Low	46	45	44	39	32	30	22	45	39

Microphone position: 1.4m/1.5m below the face center of the air return of the unit.

Model	Speed	1/1 Octave A-Weighted Sound Pressure (dBA), ref 20 $\mu$ Pa							Overall (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
ACM15EW	High	39	46	43	40	35	29	23	45	39
	Med	34	40	37	33	27	20	15	38	32
	Low	32	38	35	30	24	16	17	36	30
ACM20EW	High	42	48	45	43	38	32	26	48	42
	Med	38	43	42	38	33	26	18	43	37
	Low	35	40	38	33	28	20	11	39	33
ACM25EW	High	43	49	47	45	40	34	28	49	44
	Med	40	47	44	41	36	30	23	46	40
	Low	36	42	39	36	30	23	16	41	35

Microphone position: 1.5m below the centre of the unit.

Model	Speed	1/1 Octave A-Weighted Sound Pressure (dBA), ref 20 $\mu$ Pa							Overall (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
ACC10CW	High	43	35	35	30	26	18	13	36	30
	Med	43	34	34	28	25	17	12	35	29
	Low	42	31	31	27	22	14	9	33	25
ACC15CW	High	46	40	40	33	29	21	17	40	35
	Med	45	38	38	31	27	18	14	38	33
	Low	40	33	33	26	21	11	9	33	28
ACC20CW	High	47	41	43	35	31	24	19	42	38
	Med	47	41	41	34	31	23	18	41	36
	Low	47	39	39	33	29	21	16	40	34
ACC25CW	High	48	41	40	35	31	24	19	41	35
	Med	47	39	39	34	29	22	17	40	34
	Low	44	35	35	30	25	17	12	36	30
ACC30CW	High	50	45	43	42	37	31	26	46	41
	Med	45	40	40	38	32	26	20	42	37
	Low	42	36	37	33	28	22	15	38	32
ACC40CW	High	54	47	47	45	39	35	29	49	44
	Med	49	42	43	41	35	31	24	45	40
	Low	45	39	41	37	30	26	18	41	36
ACC50CW	High	54	49	49	48	43	37	32	52	47
	Med	53	47	46	47	40	35	29	50	46
	Low	51	45	44	44	36	32	26	47	43
ACC60CW	High	55	49	49	50	44	37	33	53	49
	Med	53	46	47	47	39	34	28	50	46
	Low	51	43	44	43	35	30	24	47	42

Microphone position: 1.5m below the centre of the unit.  
 (Tested with 2m length duct at the air discharge outlet and air return inlet).

Model	Speed	1/1 Octave A-Weighted Sound Pressure (dBA), ref 20 $\mu$ Pa							Overall (dBA)	Noise Criteria
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
ADB75BW	High	57	50	47	44	40	35	24	50	43
	Med	57	46	44	40	35	30	17	46	41
	Low	48	42	41	35	30	24	6	42	36
ADB100BW	High	57	53	50	50	44	40	31	54	49
	Med	55	51	49	48	42	38	28	52	47
	Low	54	50	48	46	40	35	25	50	45
ADB125BW	High	57	55	56	53	51	46	38	58	53
ADB150BW	High	57	55	56	53	51	46	38	58	53

Microphone position: 1m in front of the unit and center of the unit.  
 1m away from every side of the unit and 1m above floor level

### Sound Power Level

Model	Speed	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall A (dBA)
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
AWM07LW	High	40	43	44	41	36	23	19	45
	Med	39	40	40	37	29	20	28	41
	Low	38	37	35	32	21	16	23	36
AWM10LW	High	48	45	46	44	38	28	20	48
	Med	48	41	42	40	32	18	19	44
	Low	45	37	38	35	24	14	18	39
AWM15LW	High	48	50	52	51	46	38	26	55
	Med	45	47	49	47	41	32	22	50
	Low	43	42	44	41	34	22	18	45
AWM20LW	High	50	51	53	51	42	33	20	55
	Med	47	49	50	48	38	27	17	51
	Low	45	46	47	44	33	22	17	47
AWM25LW	High	53	55	55	55	50	40	26	59
	Med	48	51	52	50	42	33	21	54
	Low	45	48	50	47	38	29	18	51

Measured In Reverberation Chamber

Model	Speed	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall A (dBA)
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
ACK10CW	High	53	56	49	43	35	28	21	52
	Med	47	49	42	35	26	20	19	45
	Low	43	44	36	27	19	14	19	39
ACK15CW	High	56	58	55	50	42	38	29	56
	Med	50	51	48	41	32	26	20	49
	Low	47	49	45	37	27	20	19	45
ACK20CW	High	56	58	55	50	42	38	29	56
	Med	50	51	48	41	32	26	20	49
	Low	47	49	45	37	27	20	19	45

Measured In Reverberation Chamber

Model	Speed	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall A (dBA)
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
ACK20EW	High	53	54	52	45	35	31	19	52
	Med	50	51	48	39	29	23	17	47
	Low	46	45	42	32	22	14	17	41
ACK25EW	High	58	58	55	48	39	37	25	55
	Med	53	53	51	43	33	29	18	51
	Low	49	48	45	36	28	21	17	45
ACK30EW	High	59	61	56	51	43	44	31	58
	Med	54	55	52	46	38	36	23	53
	Low	50	50	47	40	32	26	17	47
ACK40EW	High	60	60	58	54	45	45	33	59
	Med	57	57	56	50	41	40	26	56
	Low	53	53	51	44	35	32	19	51
ACK50EW	High	64	66	61	55	48	48	37	62
	Med	59	60	57	52	44	44	32	58
	Low	56	56	54	48	40	38	25	55

Measured In Reverberation Chamber

Model	Speed	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall A (dBA)
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
ACM15EW	High	51	58	55	52	47	41	35	62
	Med	47	52	49	45	39	32	27	55
	Low	44	50	47	42	36	28	29	53
ACM20EW	High	54	60	58	55	50	44	38	63
	Med	50	55	54	50	45	38	30	59
	Low	47	52	50	45	40	32	23	56
ACM25EW	High	55	61	59	57	52	46	41	66
	Med	52	59	56	53	48	42	35	62
	Low	48	54	52	48	42	35	28	58

Measured In Reverberation Chamber

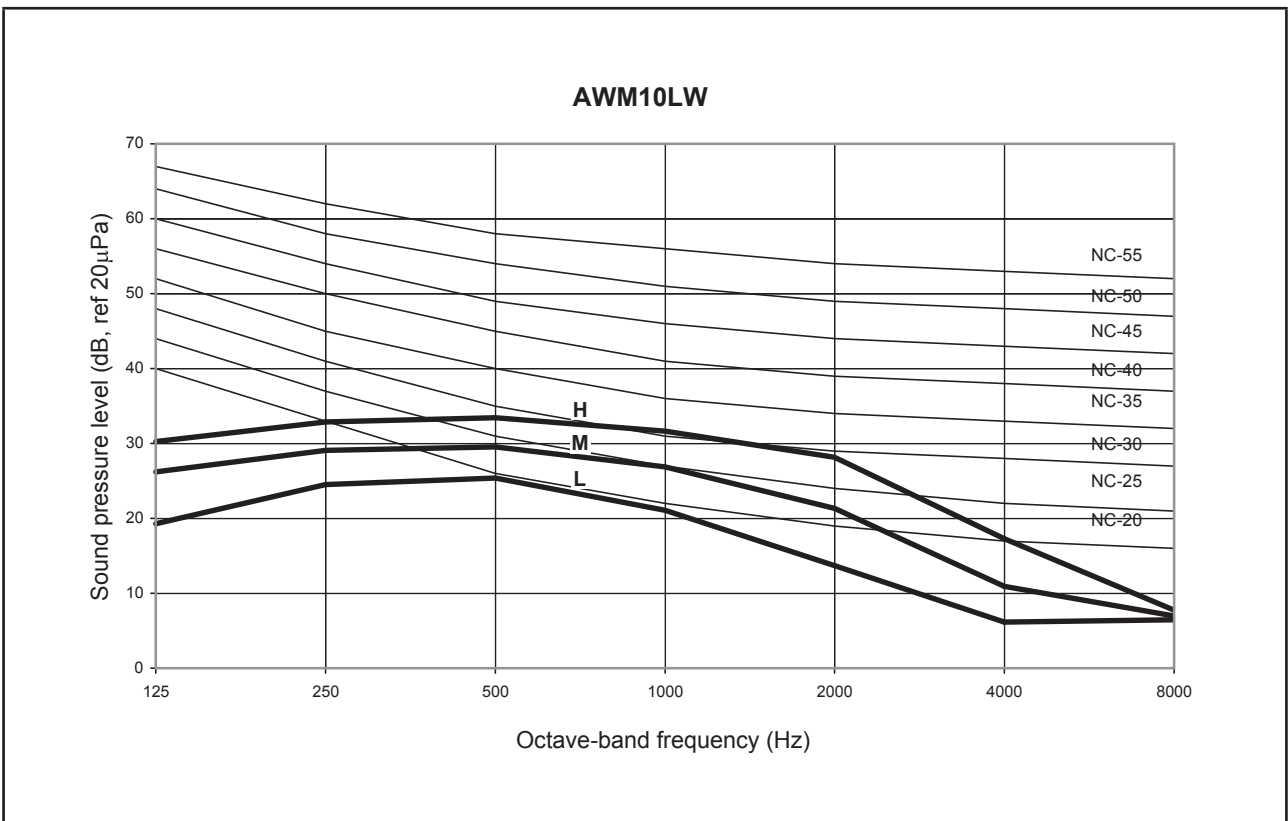
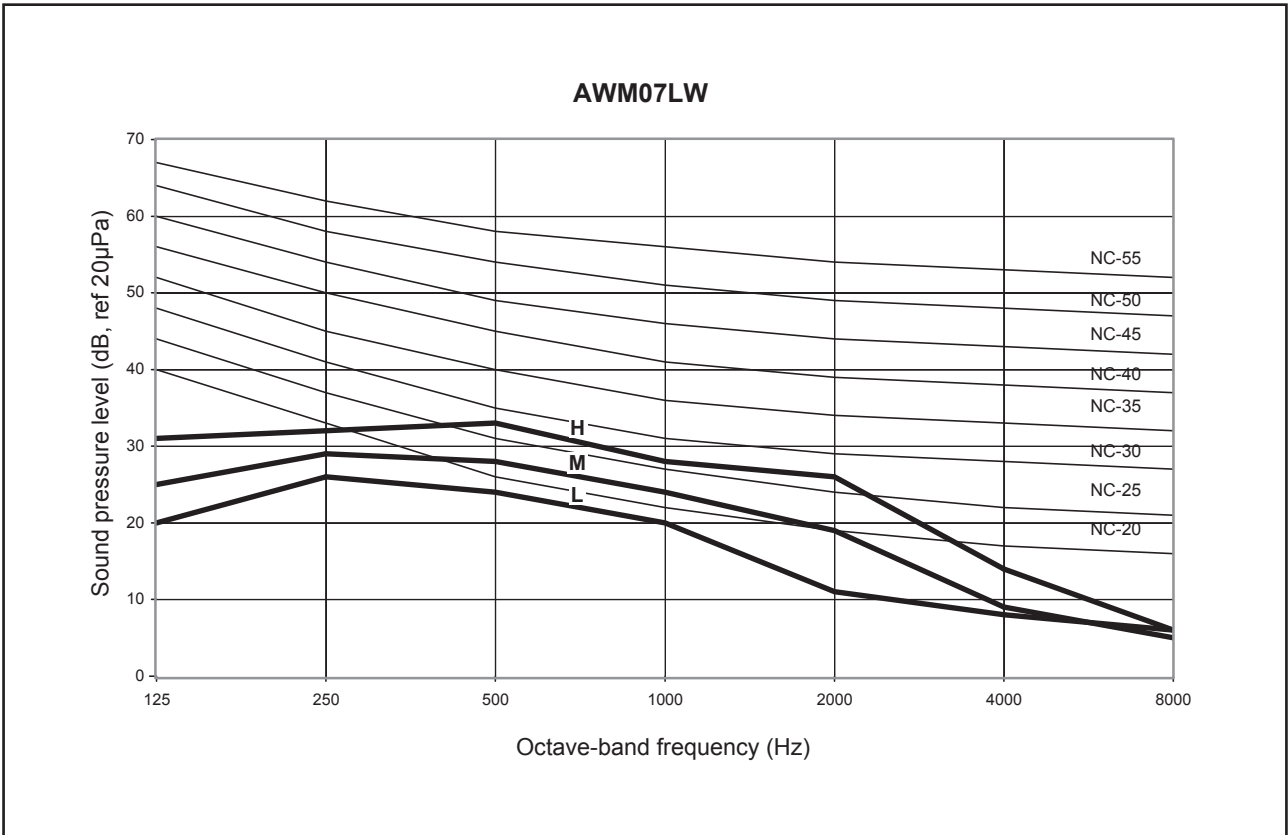
Model	Speed	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall A (dBA)
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
ACC10CW	High	57	54	52	52	51	46	44	57
	Med	54	51	50	49	48	43	39	54
	Low	51	48	47	46	44	39	35	51
ACC15CW	High	60	58	57	56	54	48	44	61
	Med	56	55	54	53	50	44	40	58
	Low	51	50	49	48	44	37	34	52
ACC20CW	High	63	62	61	61	59	55	51	65
	Med	61	61	59	60	58	53	49	64
	Low	57	56	56	56	53	48	44	60
ACC25CW	High	63	62	61	62	59	56	53	66
	Med	61	60	59	60	57	53	50	64
	Low	58	57	56	57	54	49	47	61
ACC30CW	High	65	66	68	69	65	63	60	73
	Med	61	62	64	65	61	58	55	69
	Low	56	58	60	61	57	53	49	64
ACC40CW	High	65	68	70	72	68	66	64	76
	Med	65	65	67	68	64	62	59	72
	Low	59	61	63	64	60	59	54	68
ACC50CW	High	67	69	71	72	69	66	64	76
	Med	66	66	69	69	66	63	61	73
	Low	63	64	66	67	62	60	57	70
ACC60CW	High	69	70	72	74	71	69	68	78
	Med	69	68	70	71	67	65	63	75
	Low	64	65	67	67	63	61	59	71

Measured In Reverberation Chamber

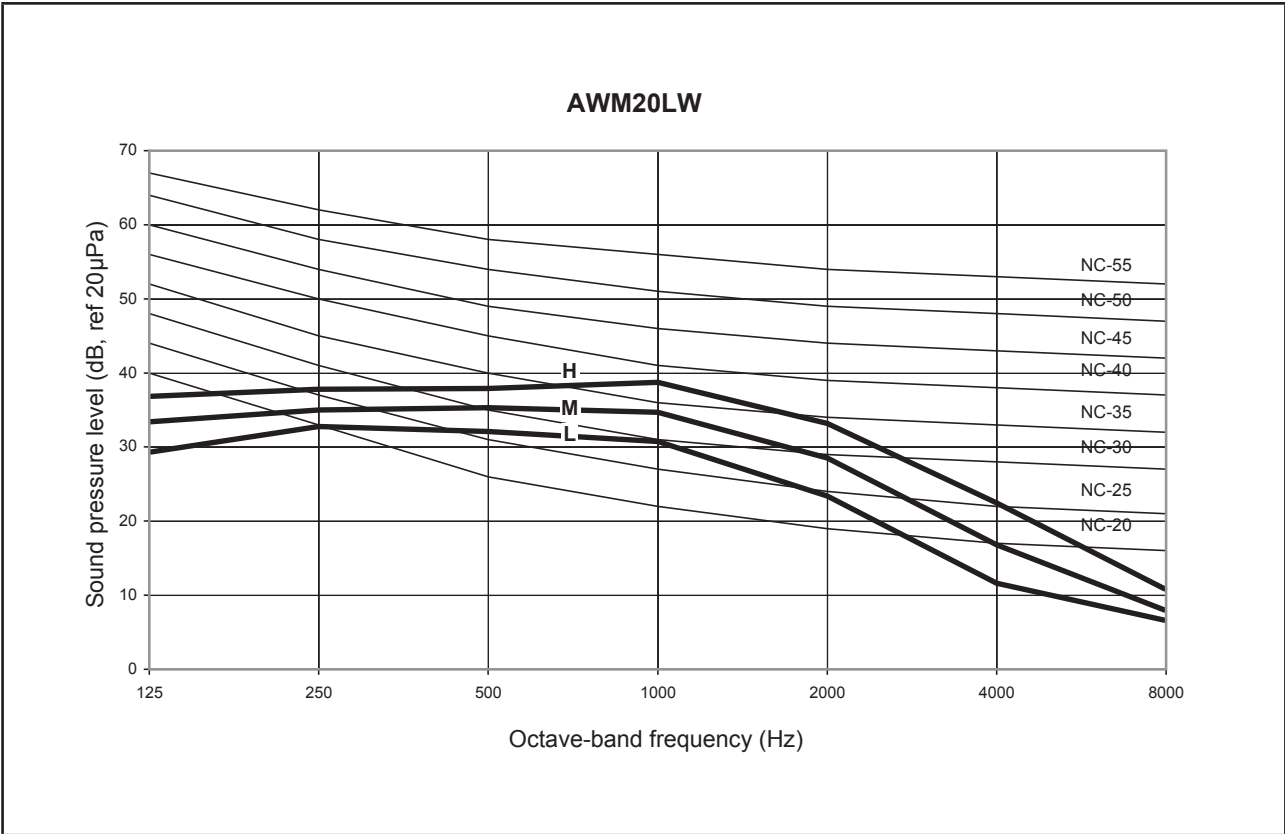
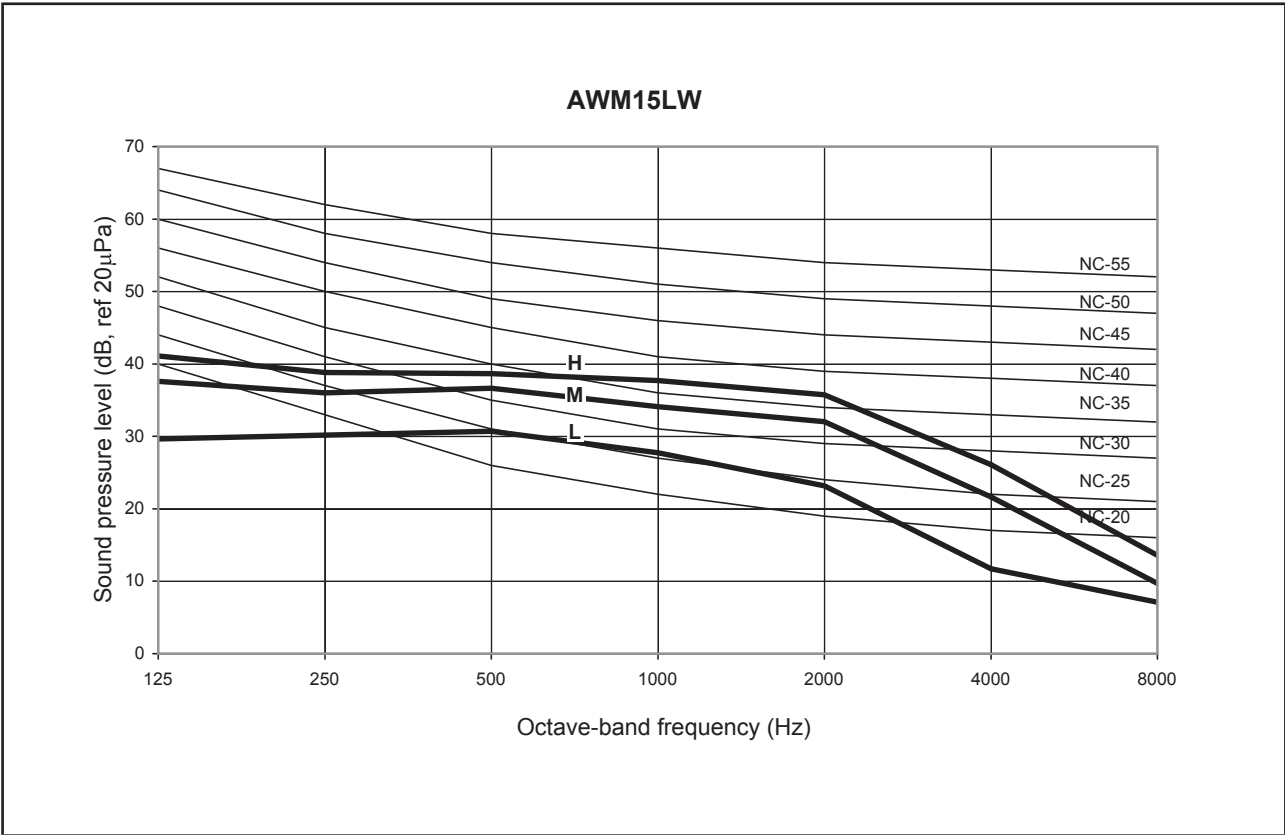
Model	Speed	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall A (dBA)
		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
ADB75BW	High	68	67	72	70	65	65	57	74
	Med	64	64	68	65	61	59	51	69
	Low	61	60	63	60	56	53	43	65
ADB100BW	High	71	71	74	74	70	70	63	78
	Med	70	69	73	72	68	68	60	76
	Low	67	67	71	69	65	64	56	73
ADB125BW	High	75	76	75	72	69	65	60	77
ADB150BW	High	75	76	75	72	69	65	60	77

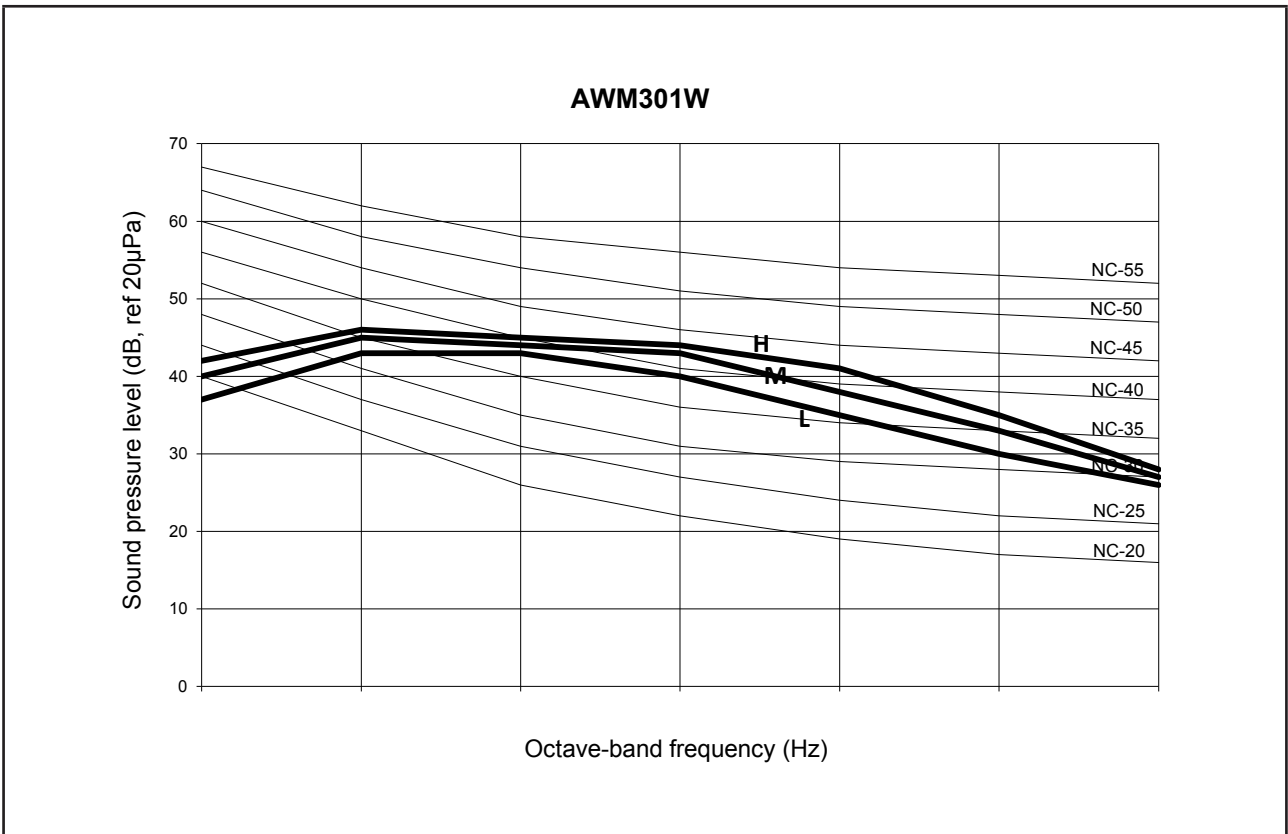
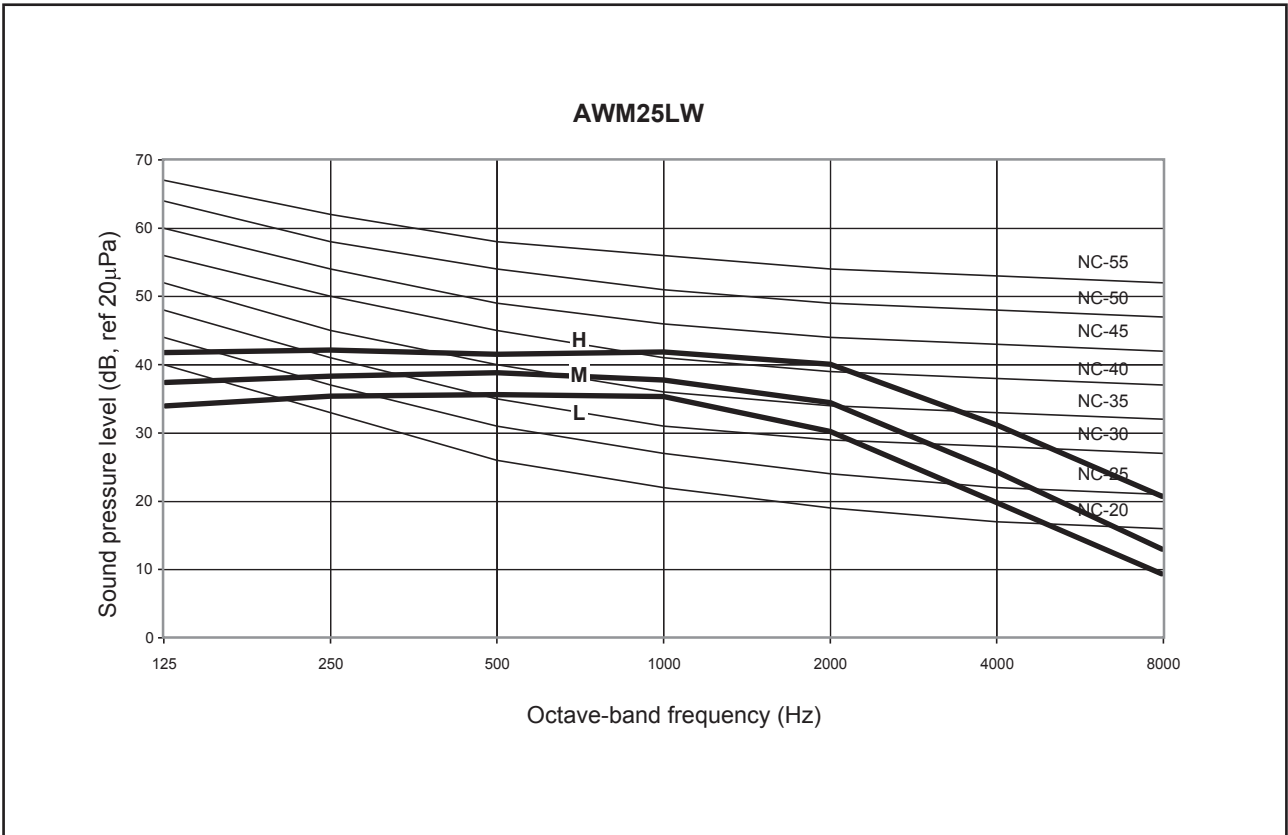
Measured In Reverberation Chamber

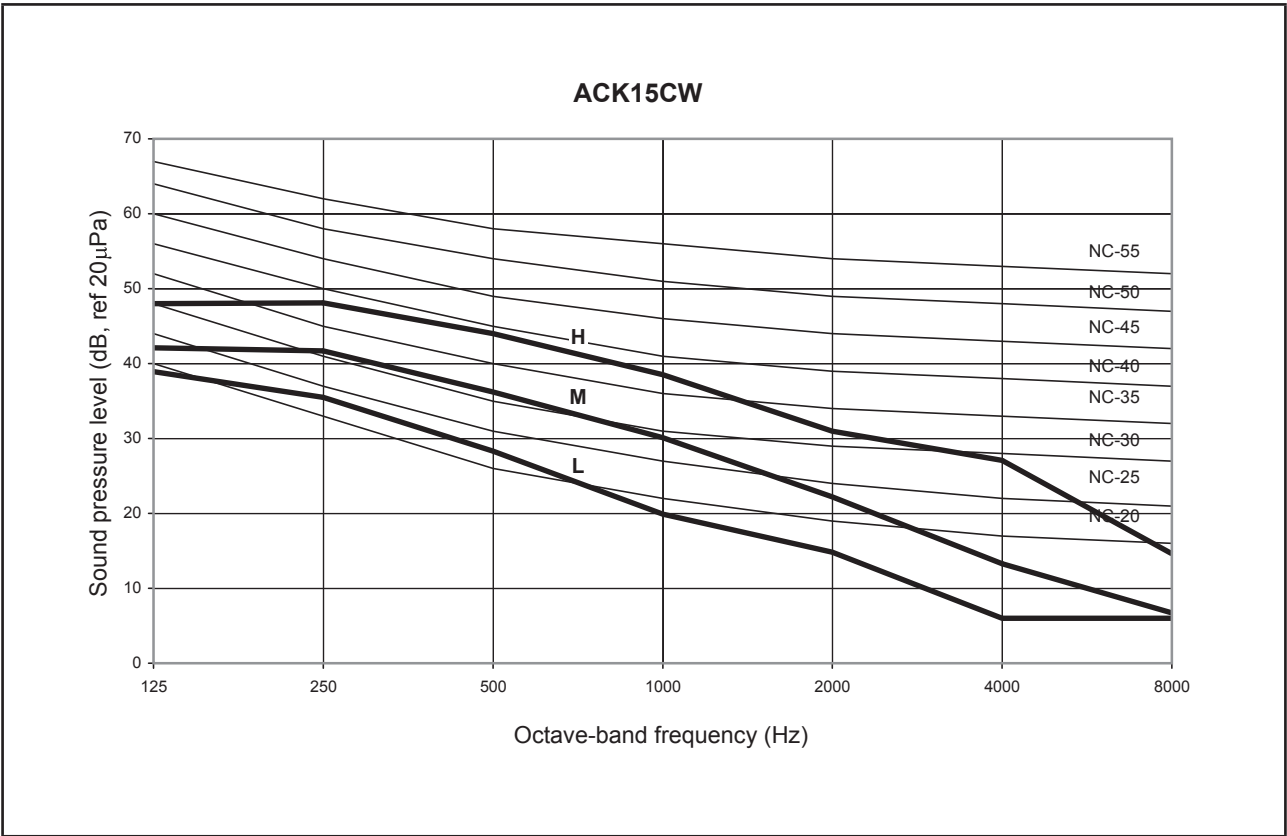
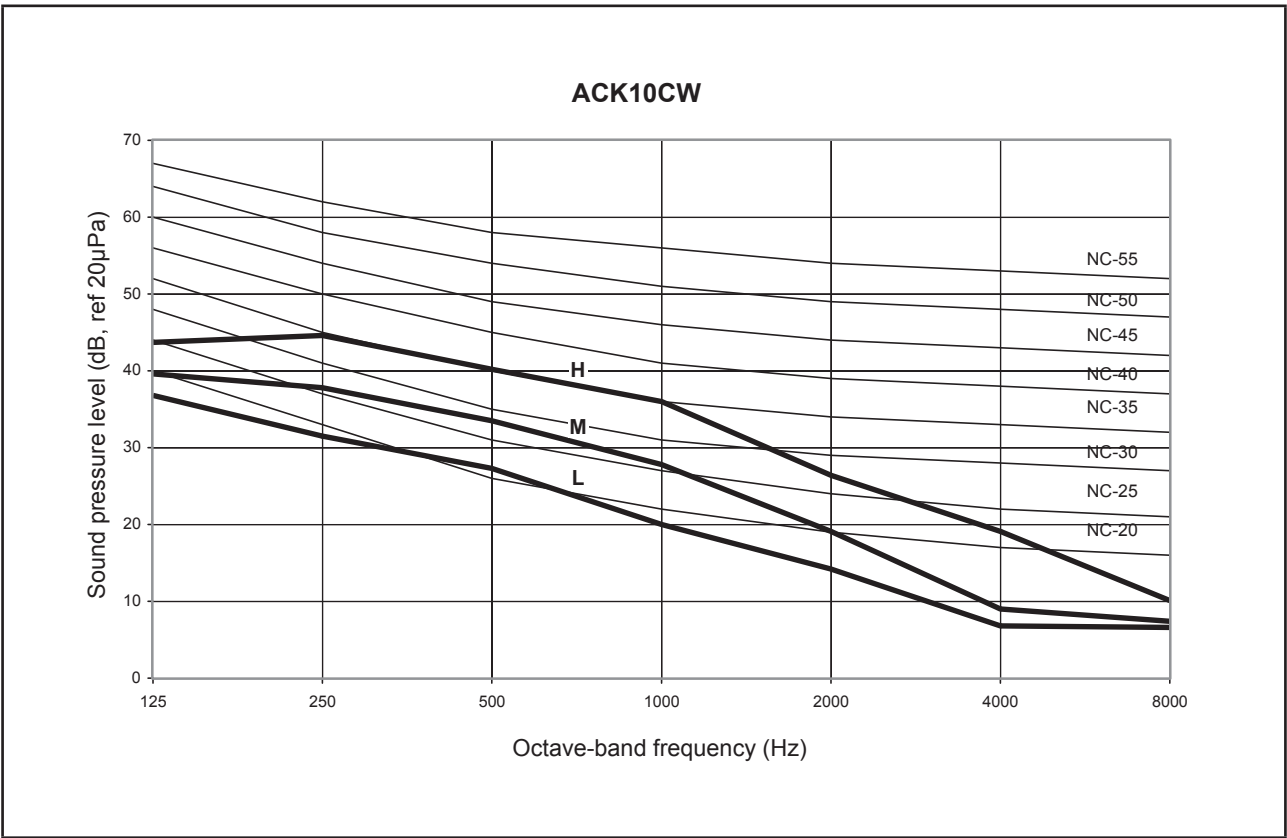
**NC Curve**

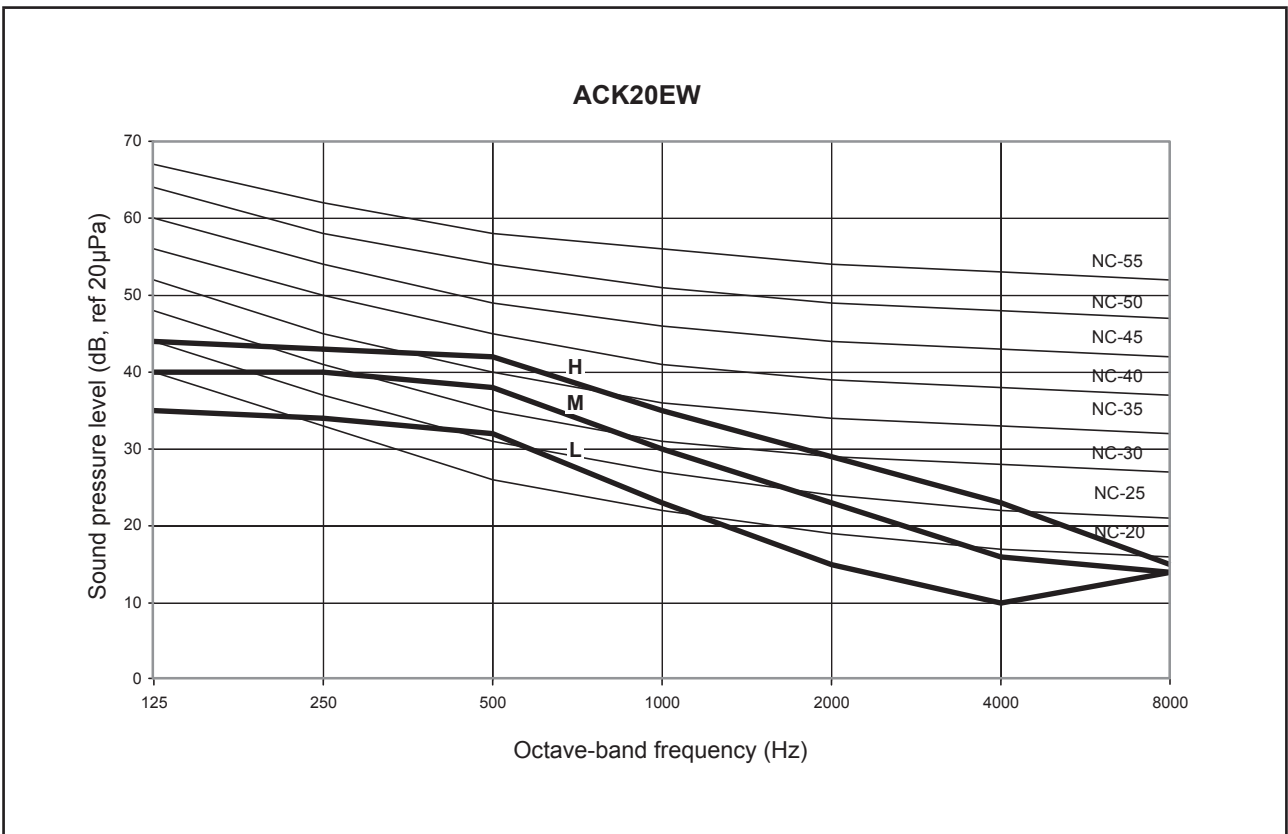
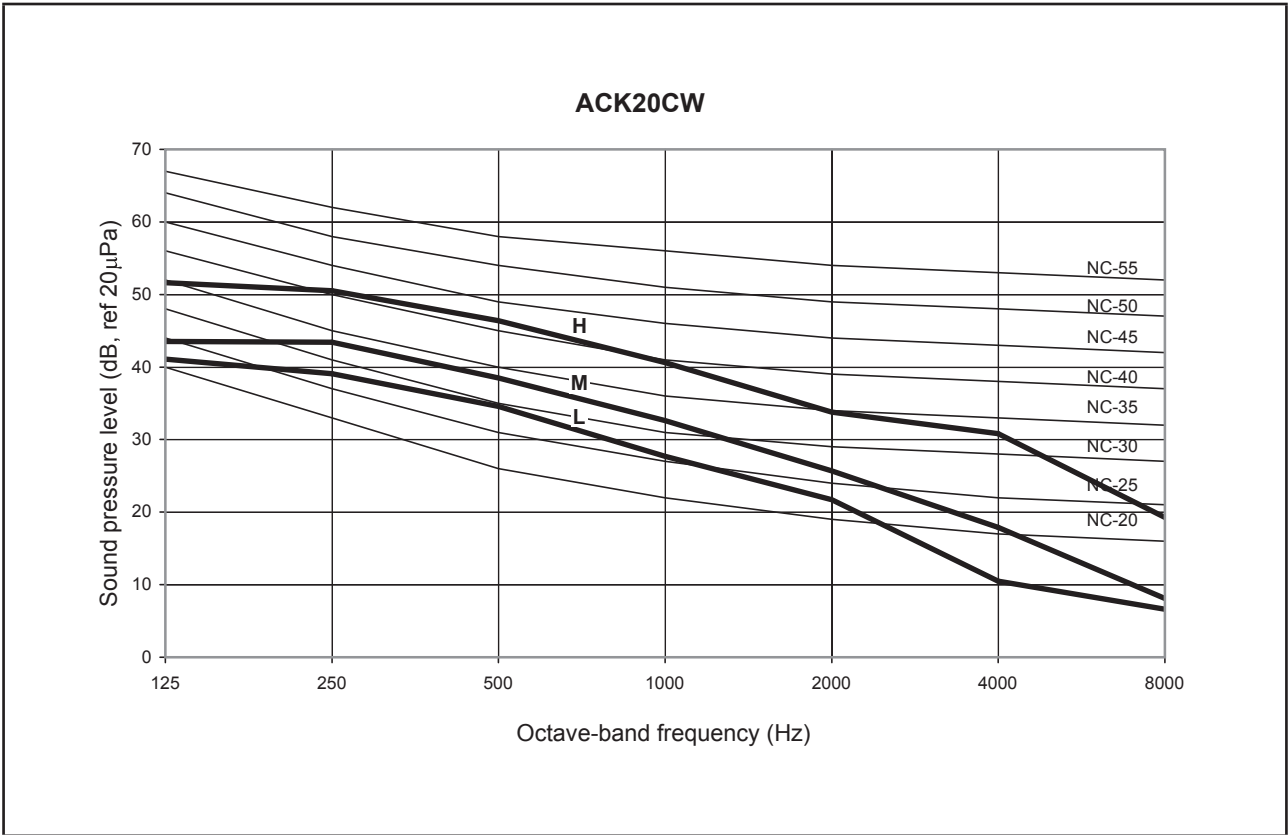


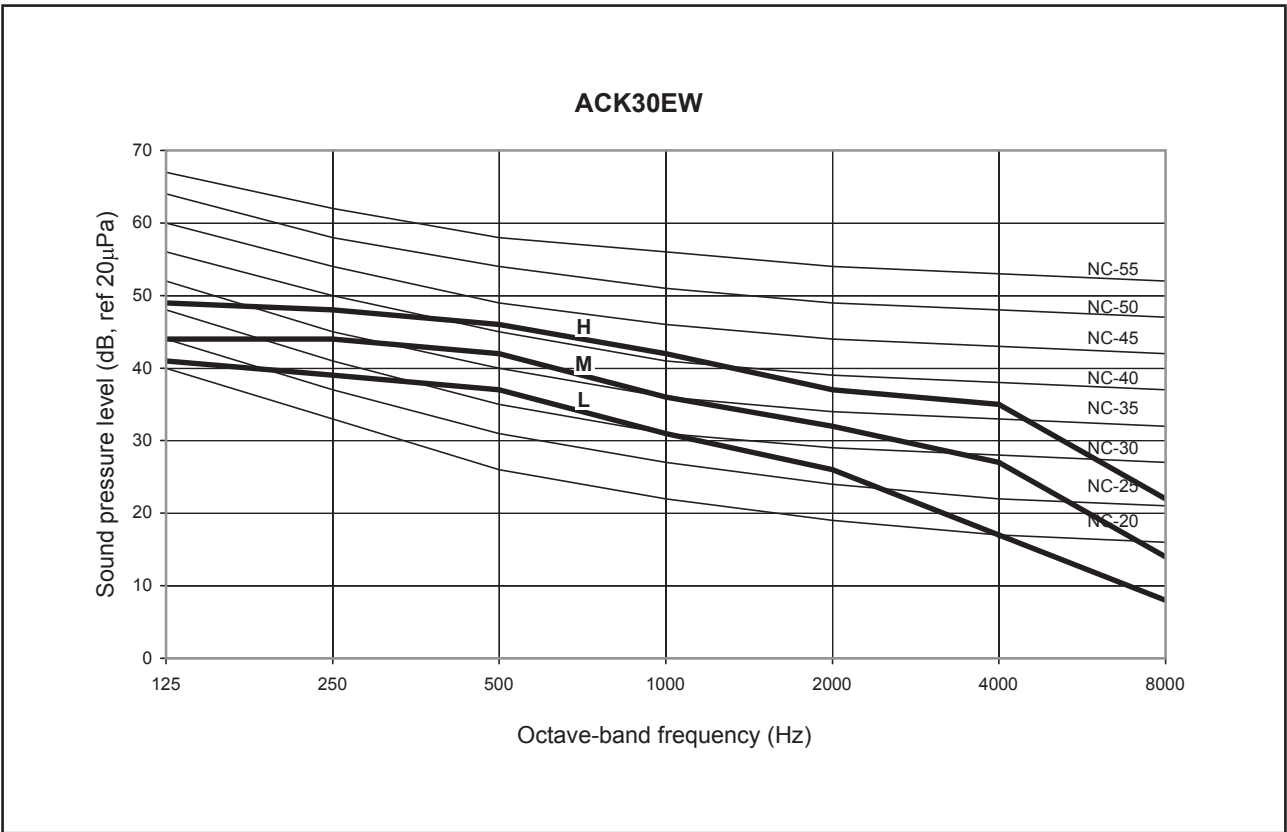
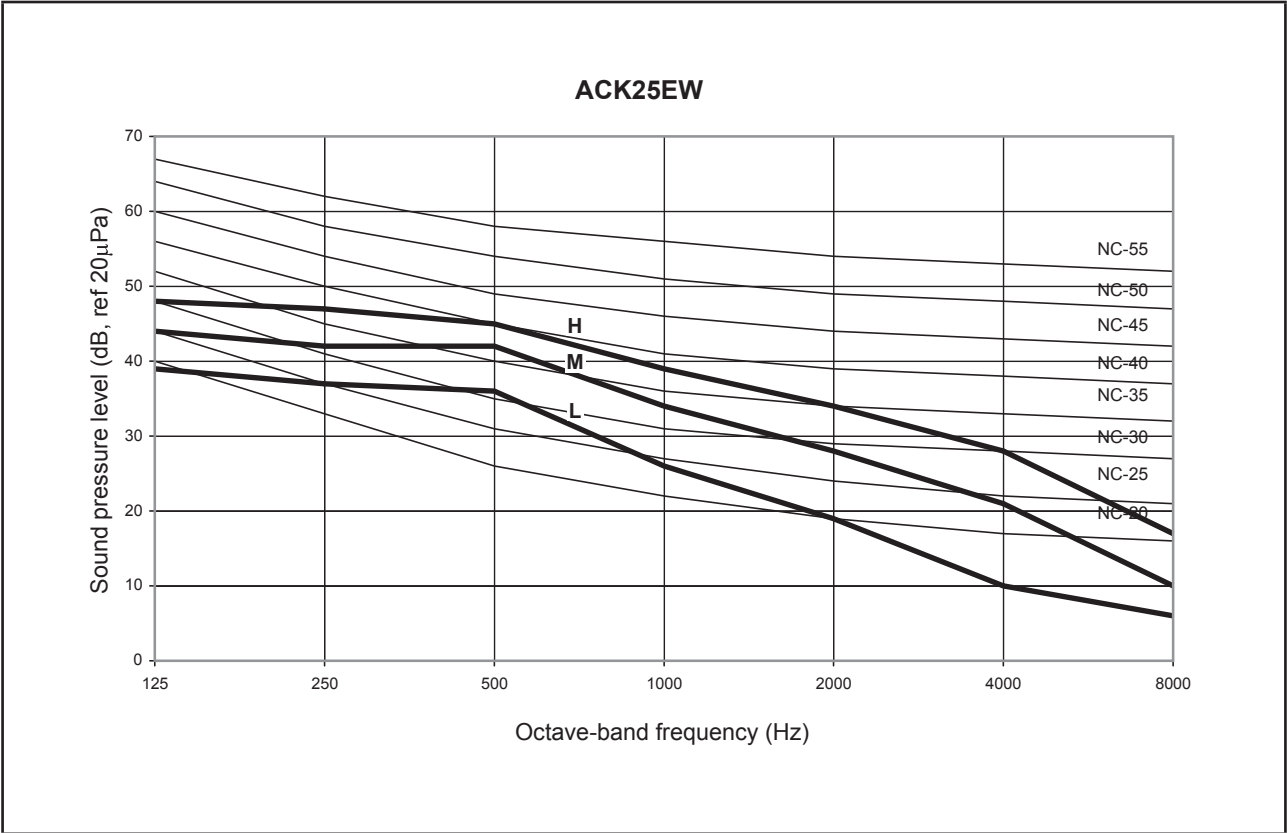


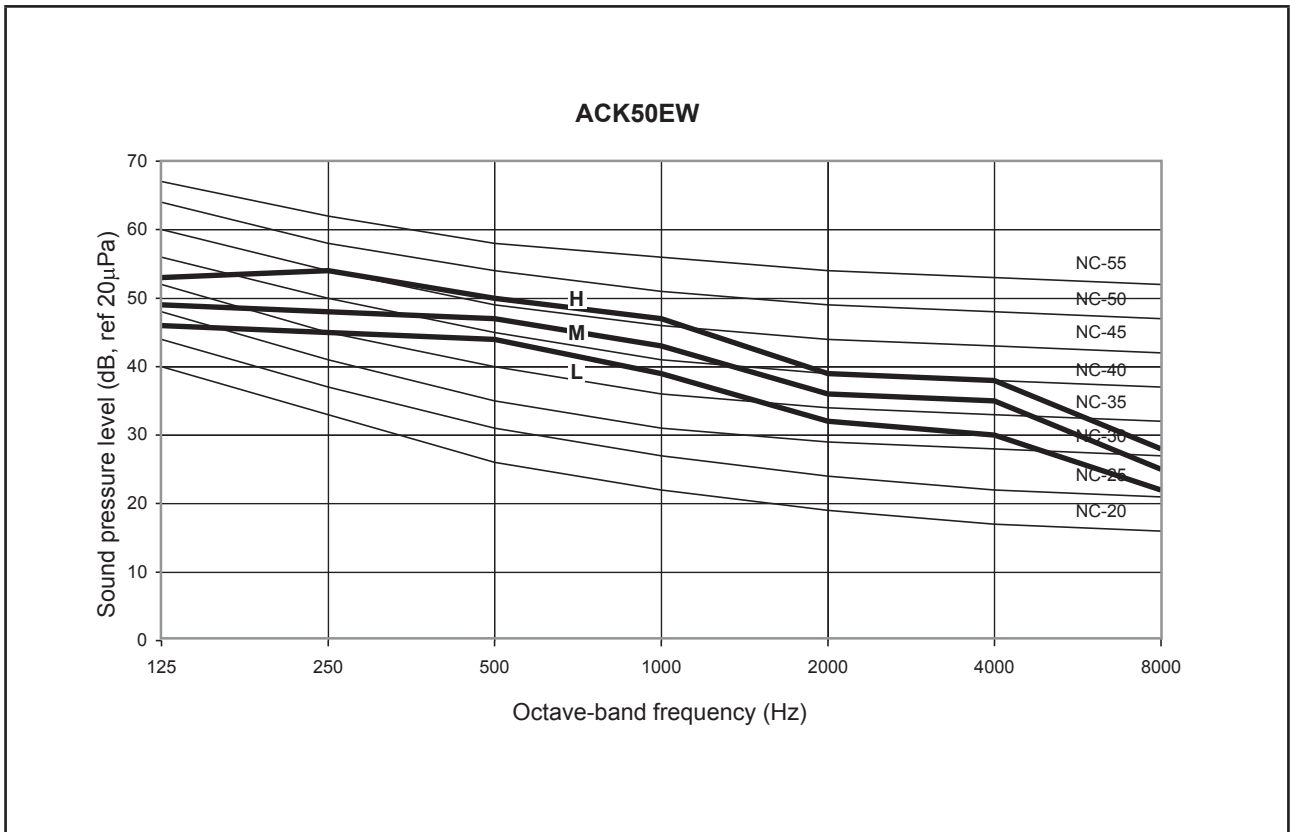
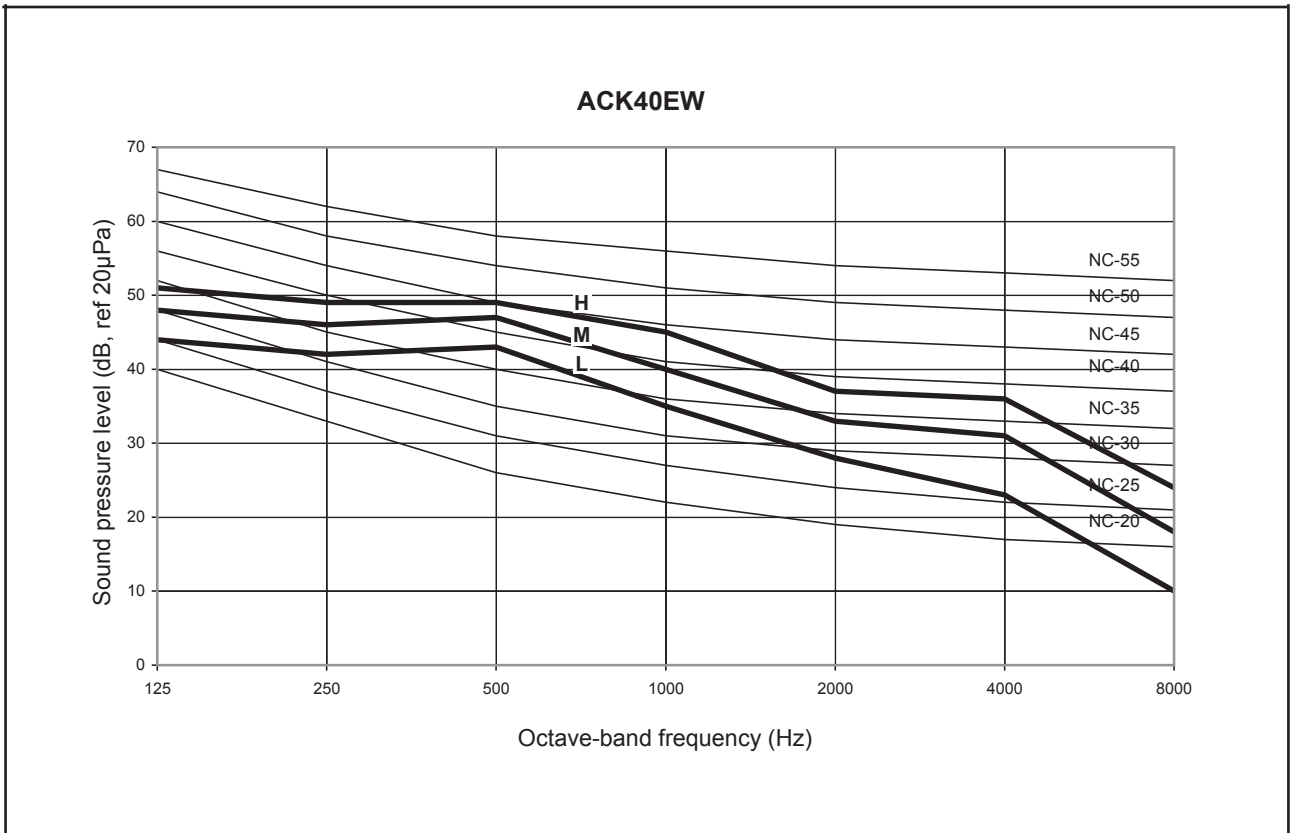




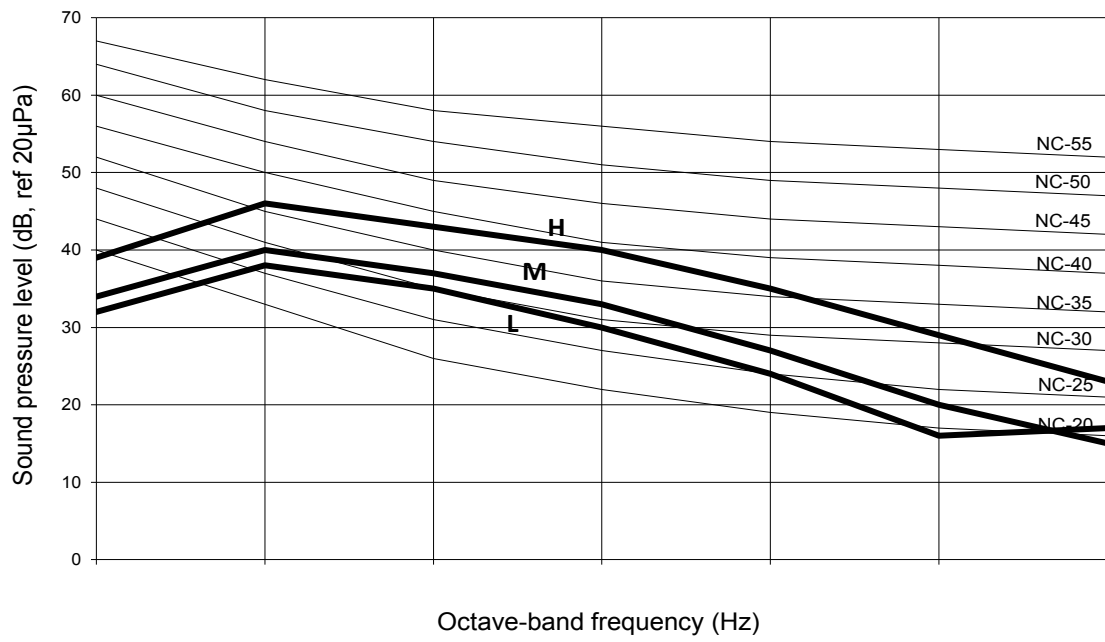




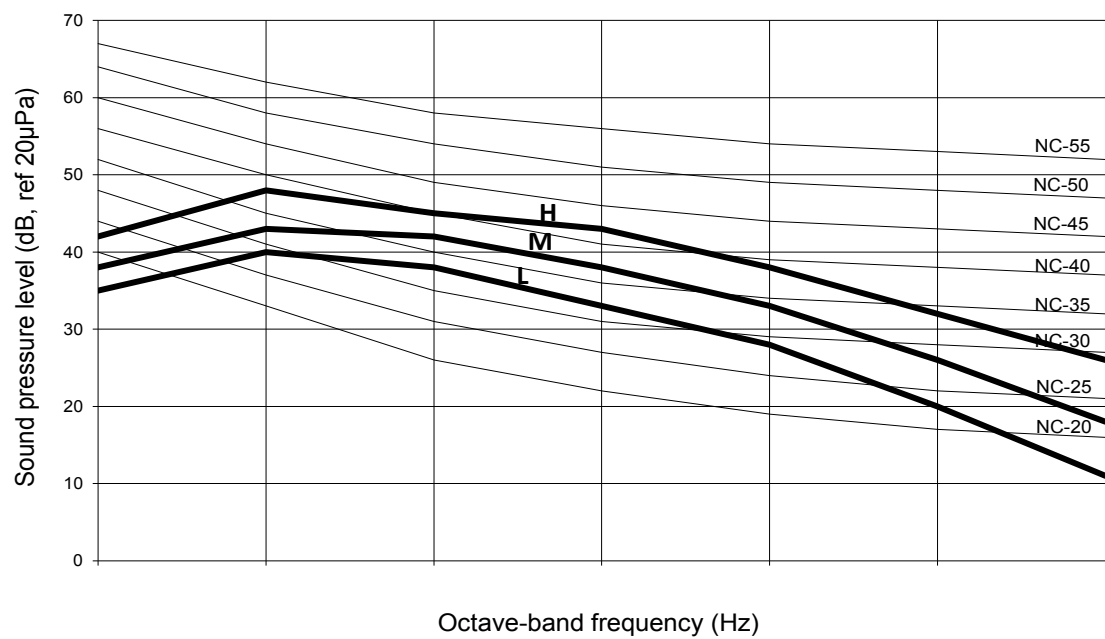




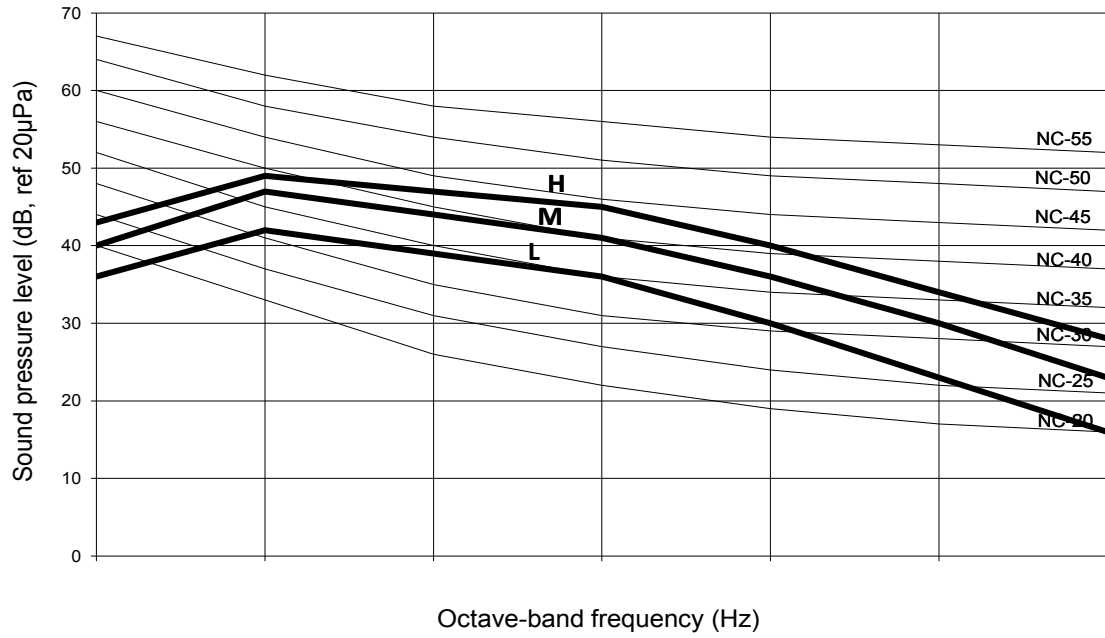
### ACM15EW



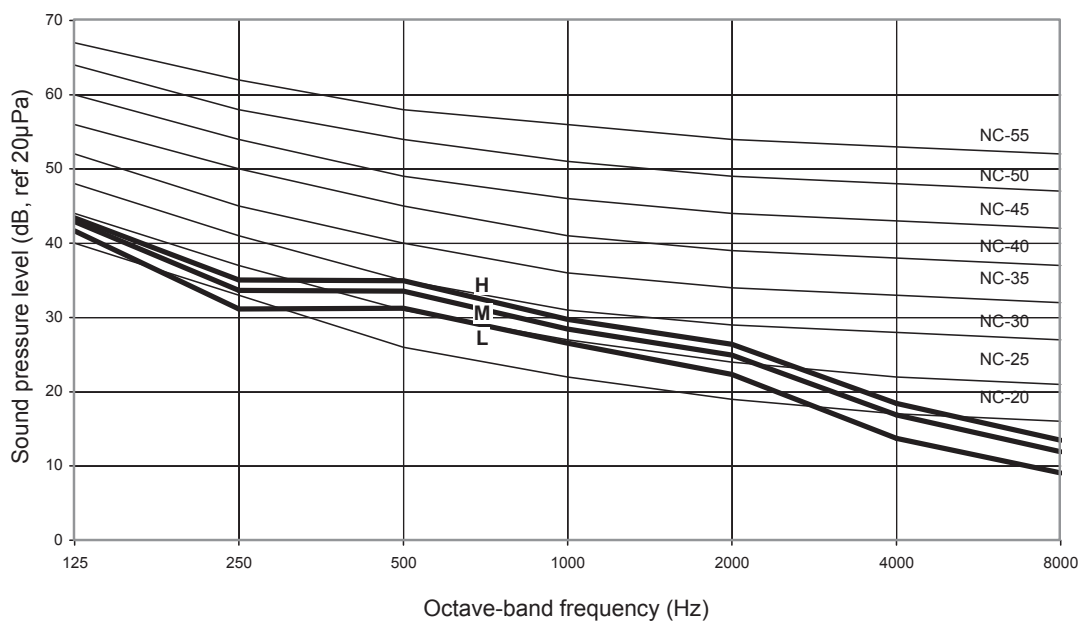
### ACM20EW



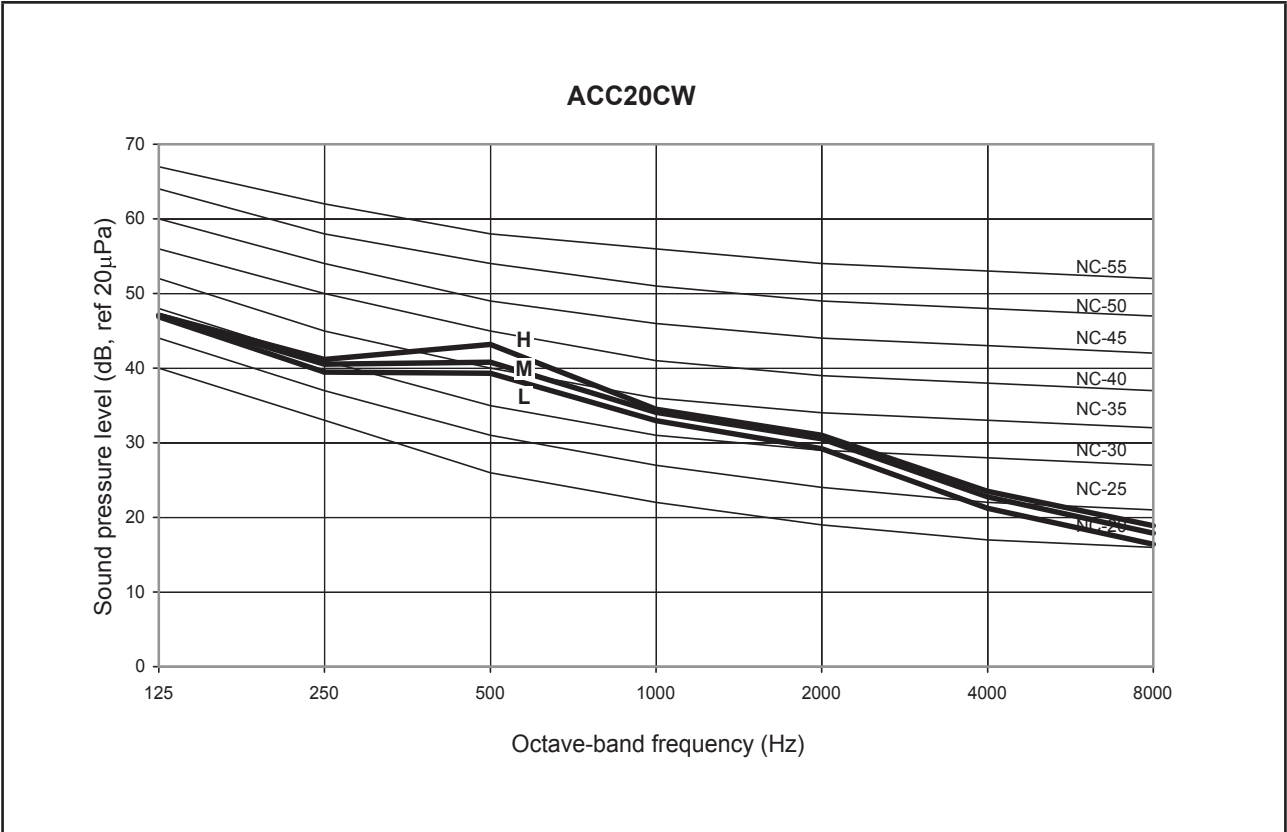
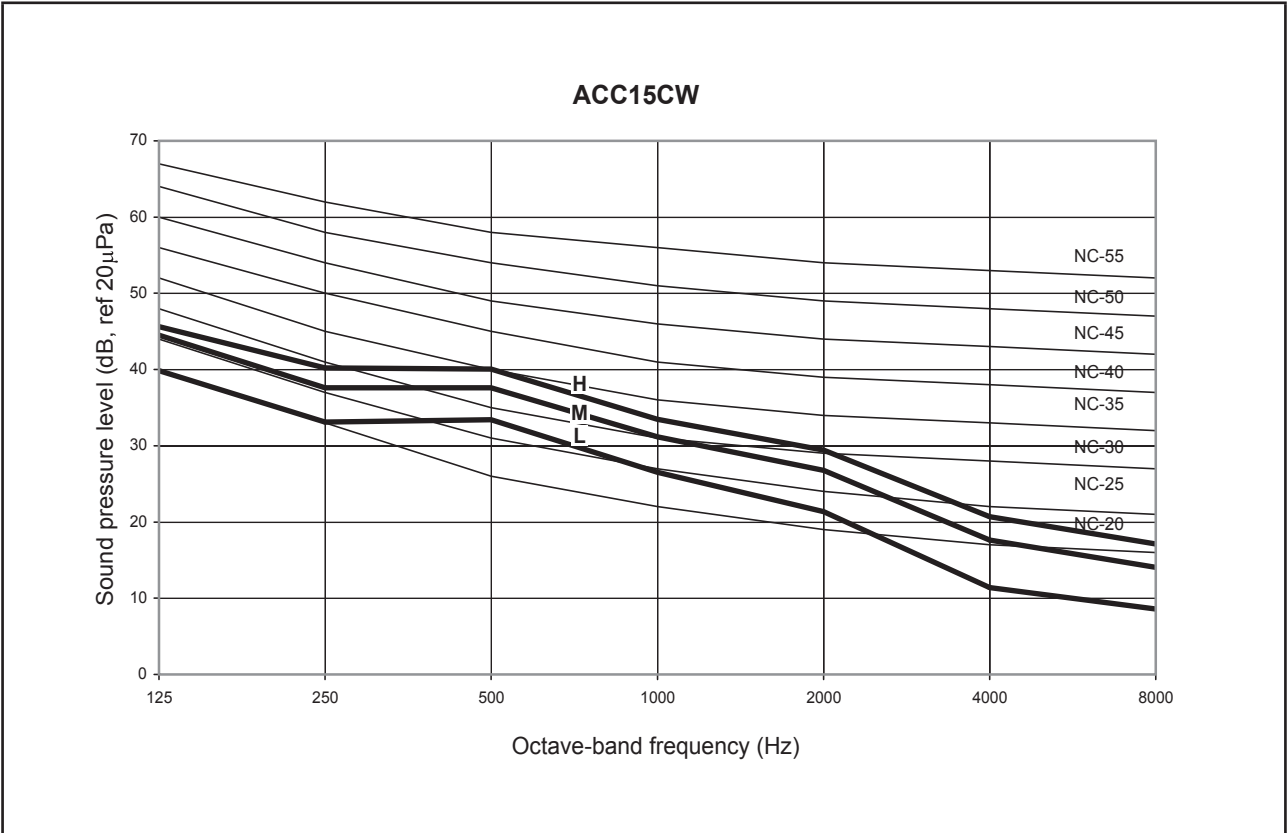
**ACM25EW**

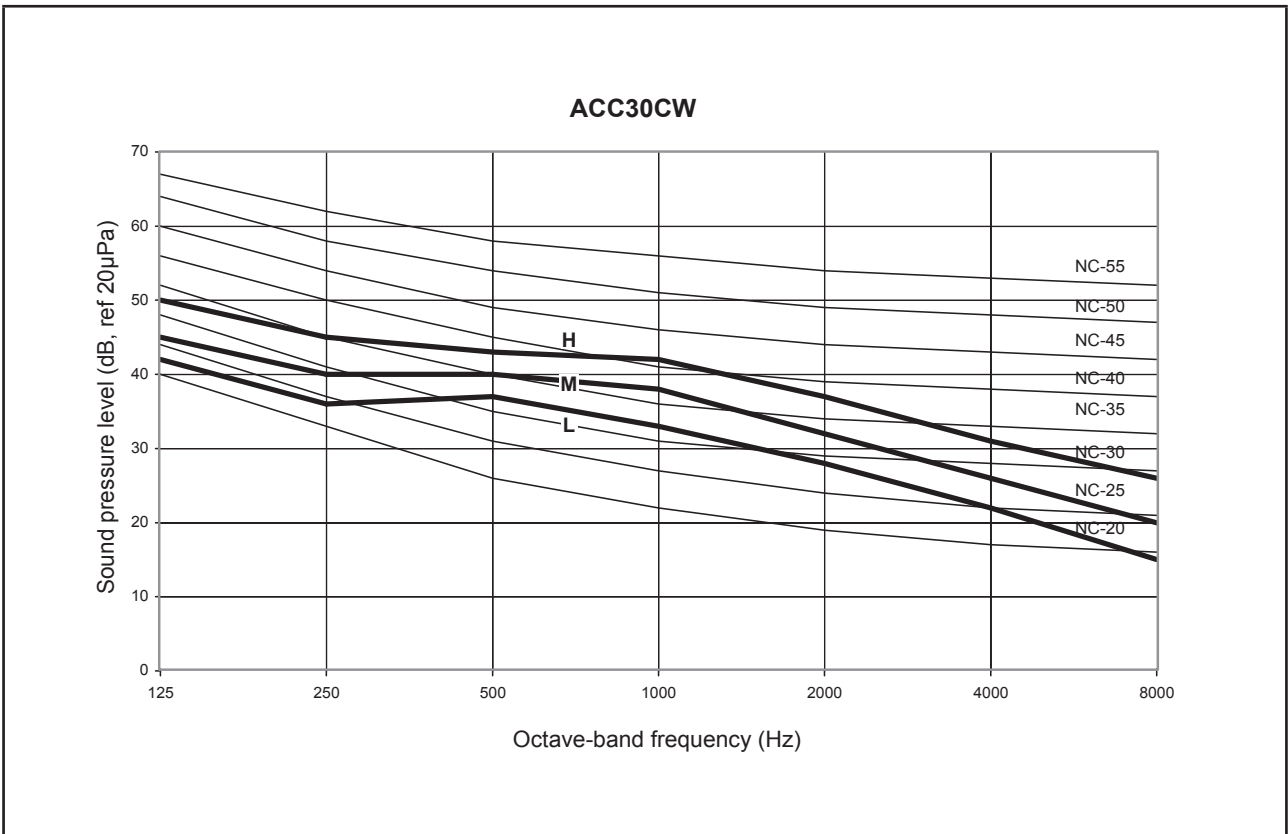
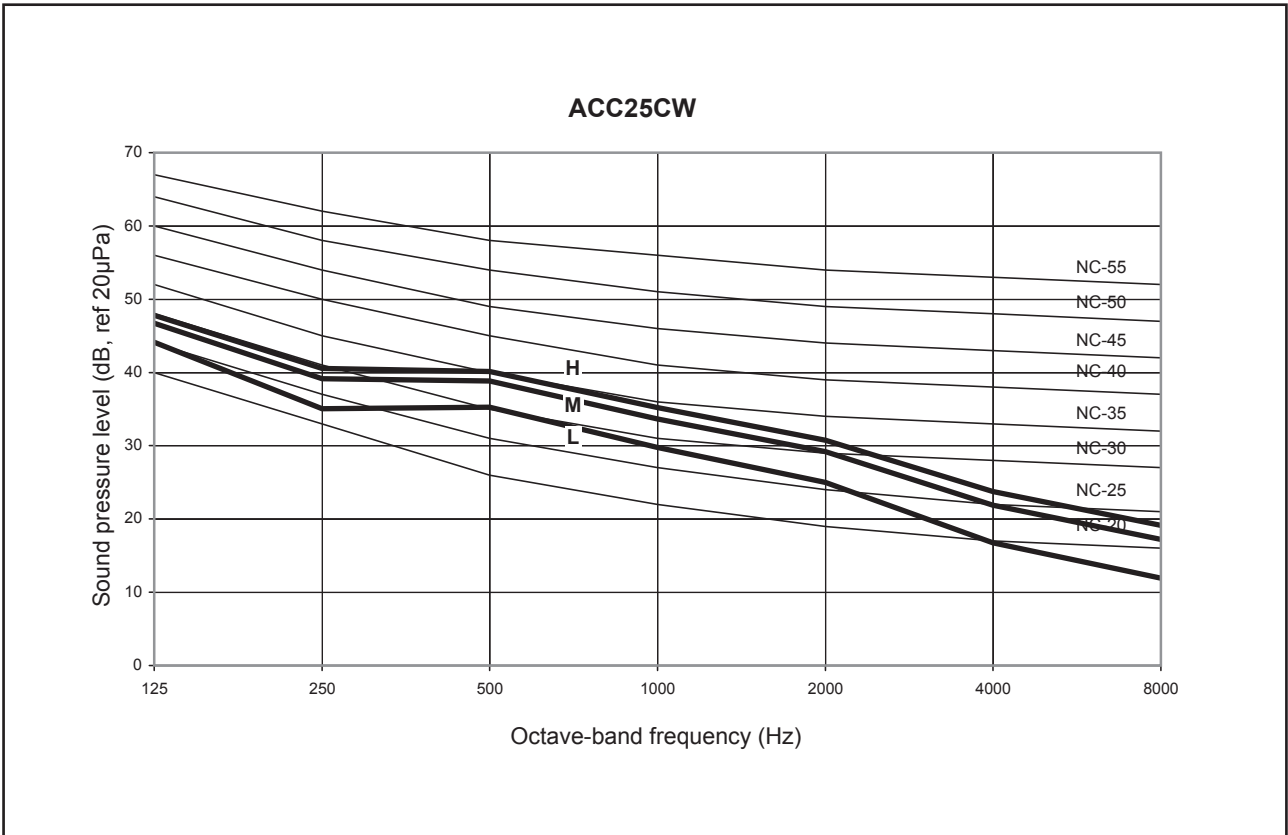


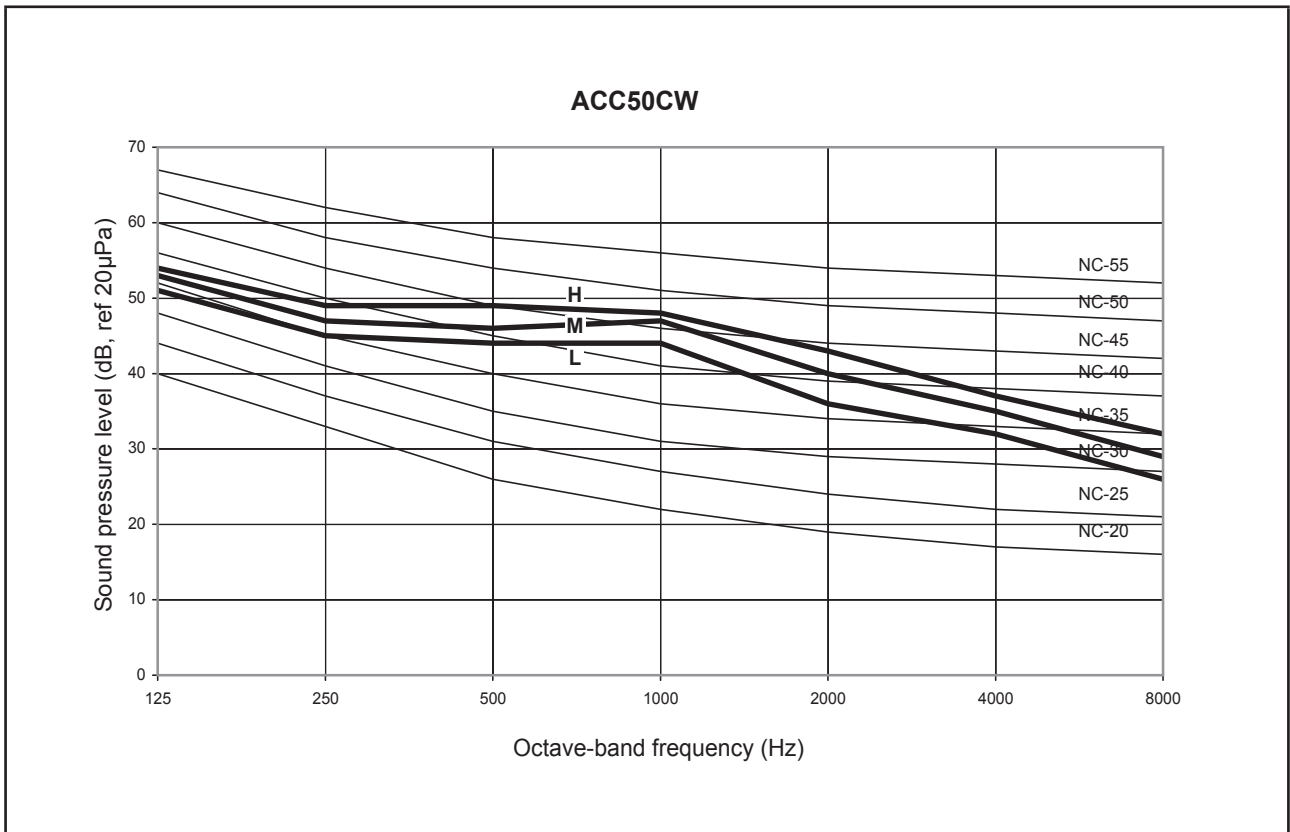
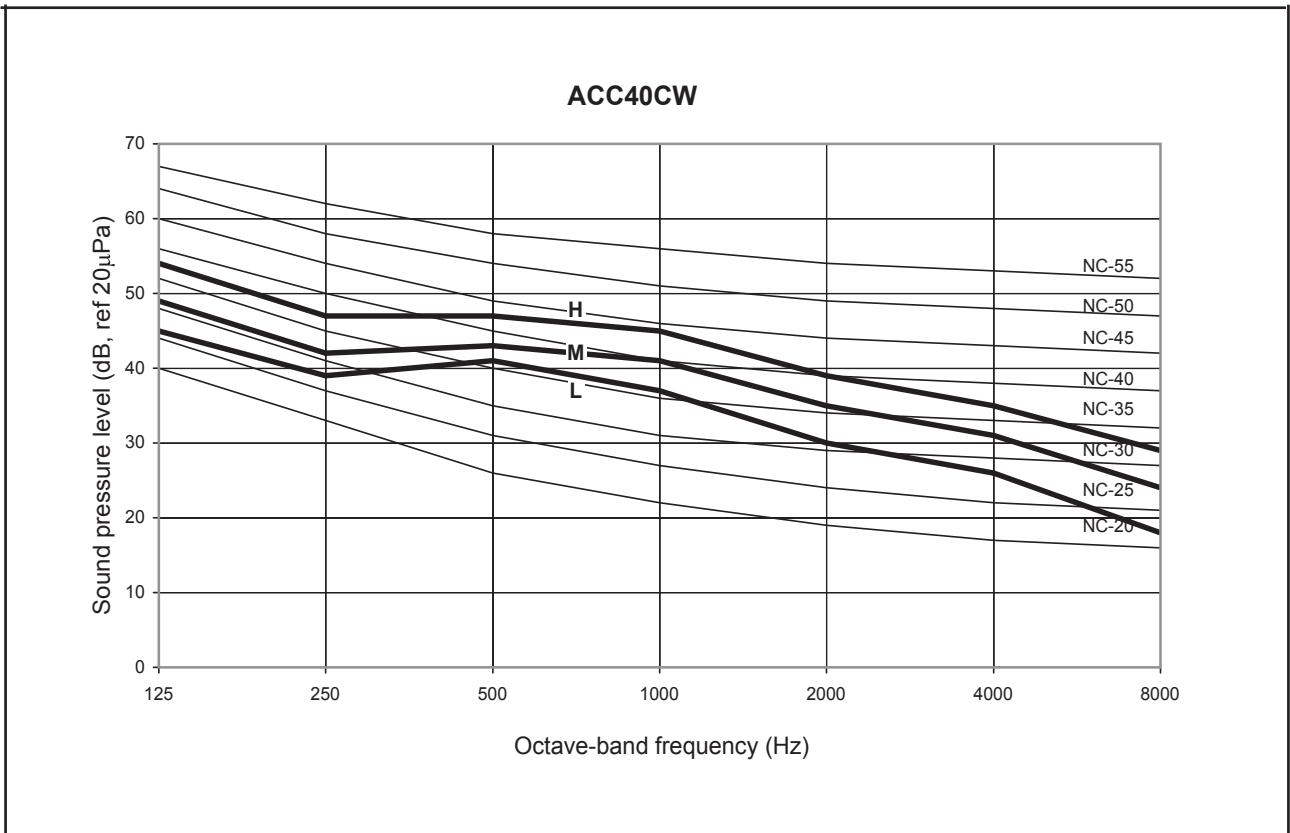
**ACC10CW**

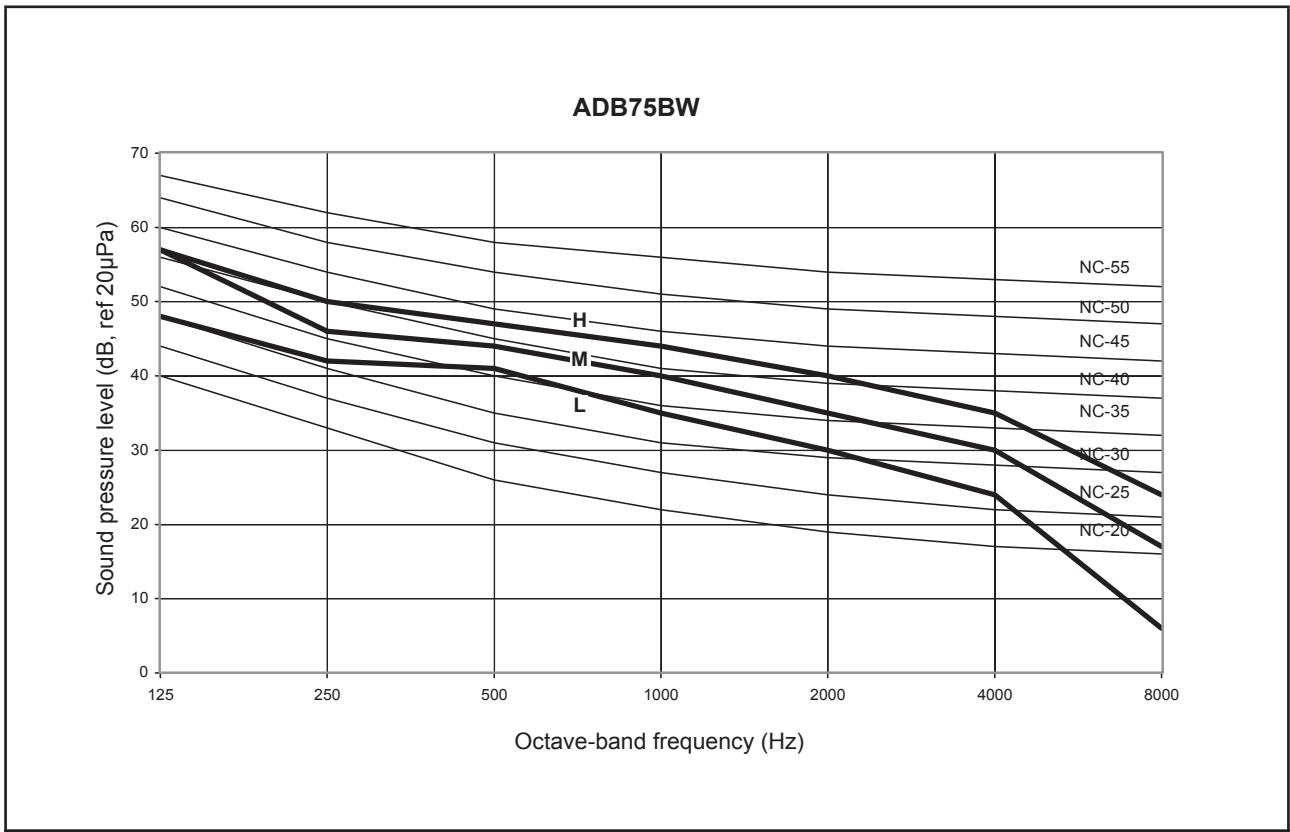
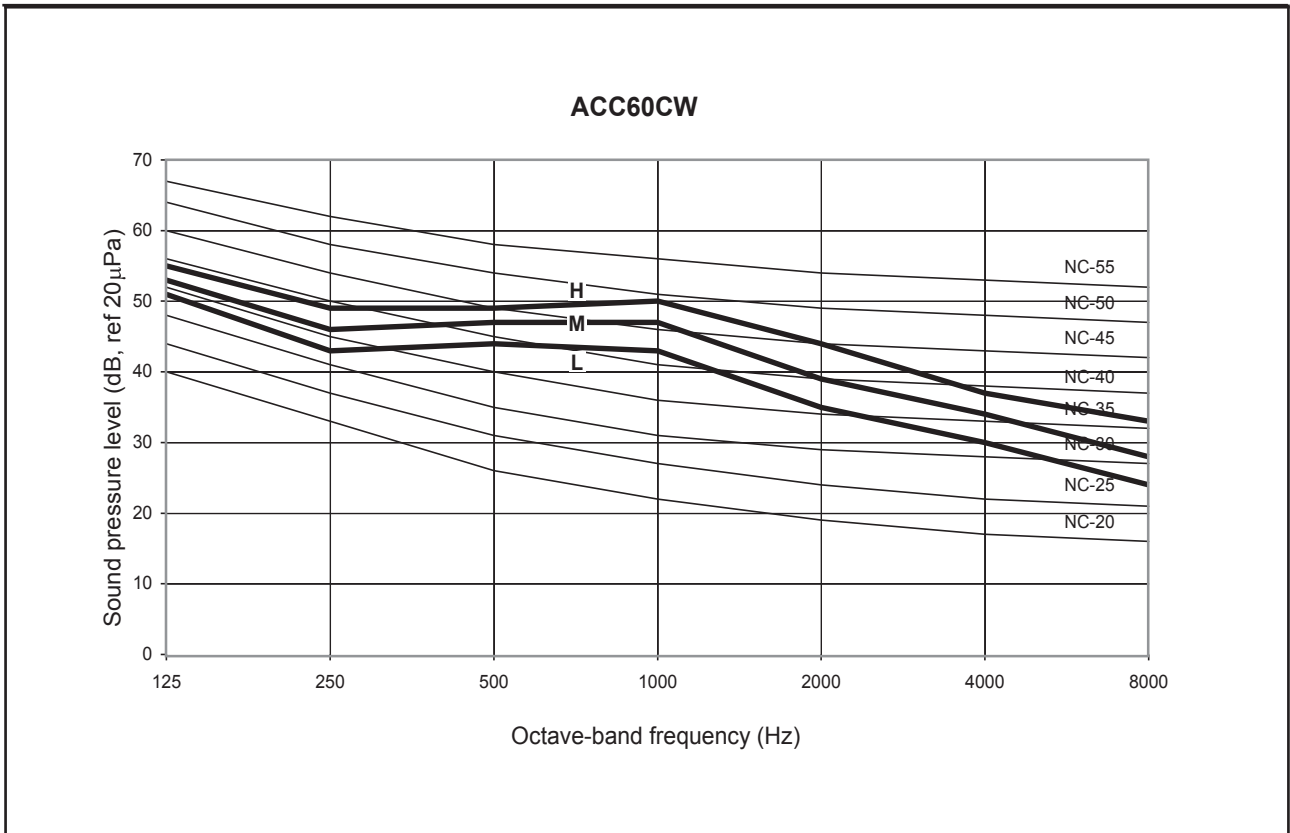


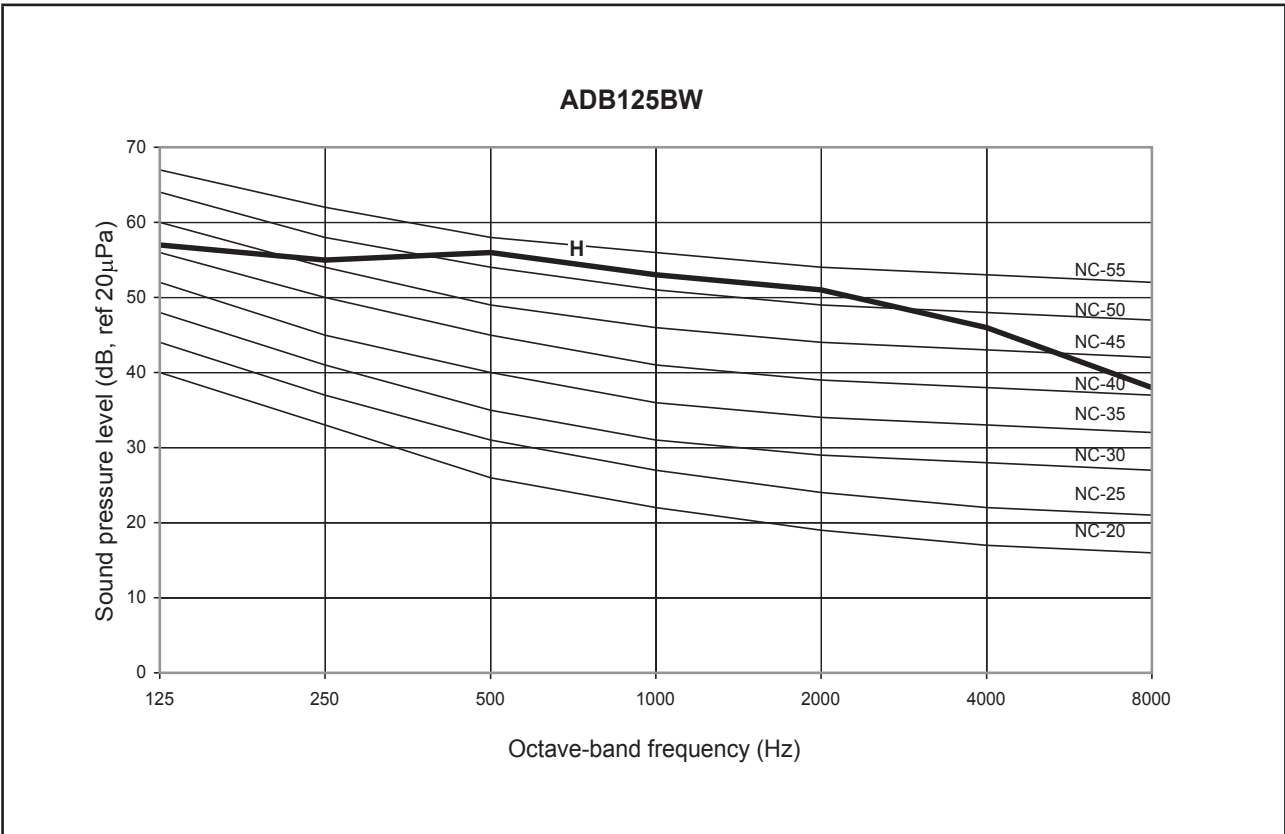
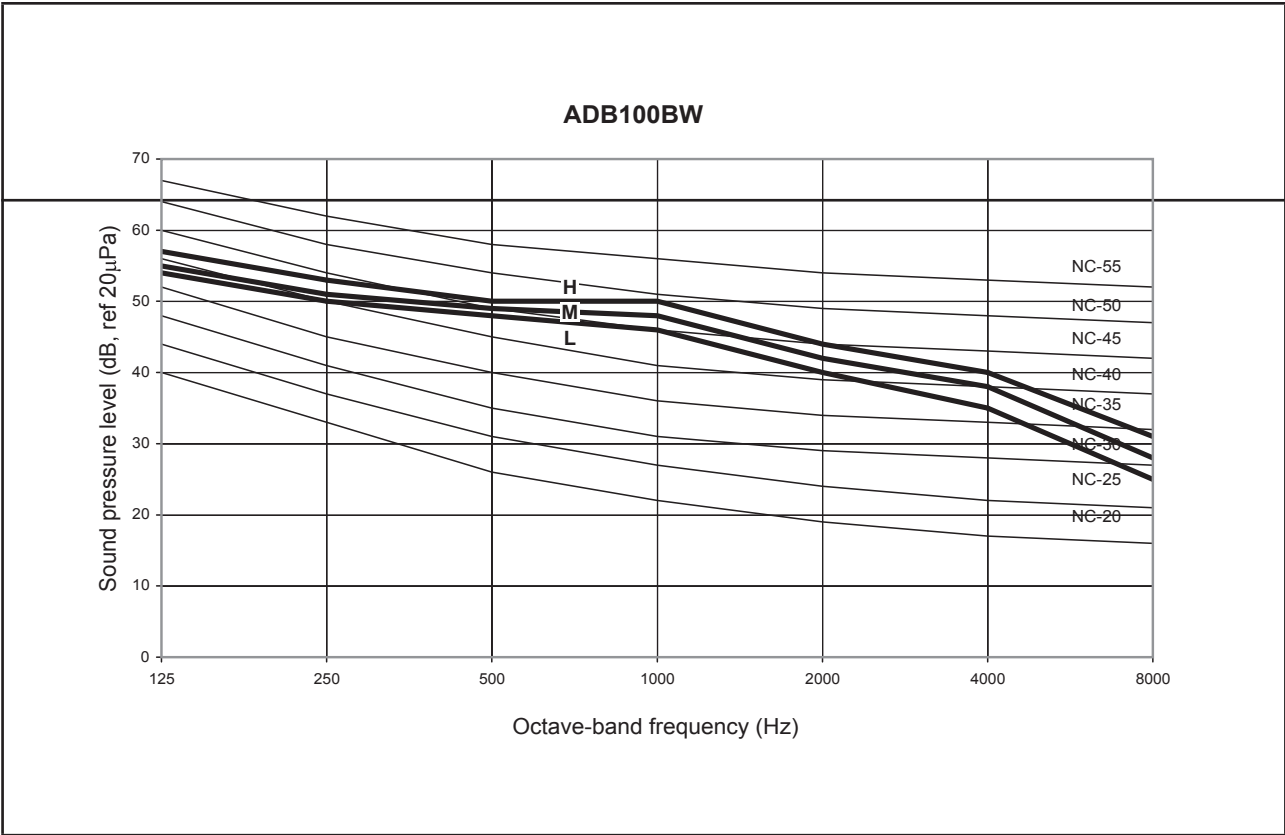


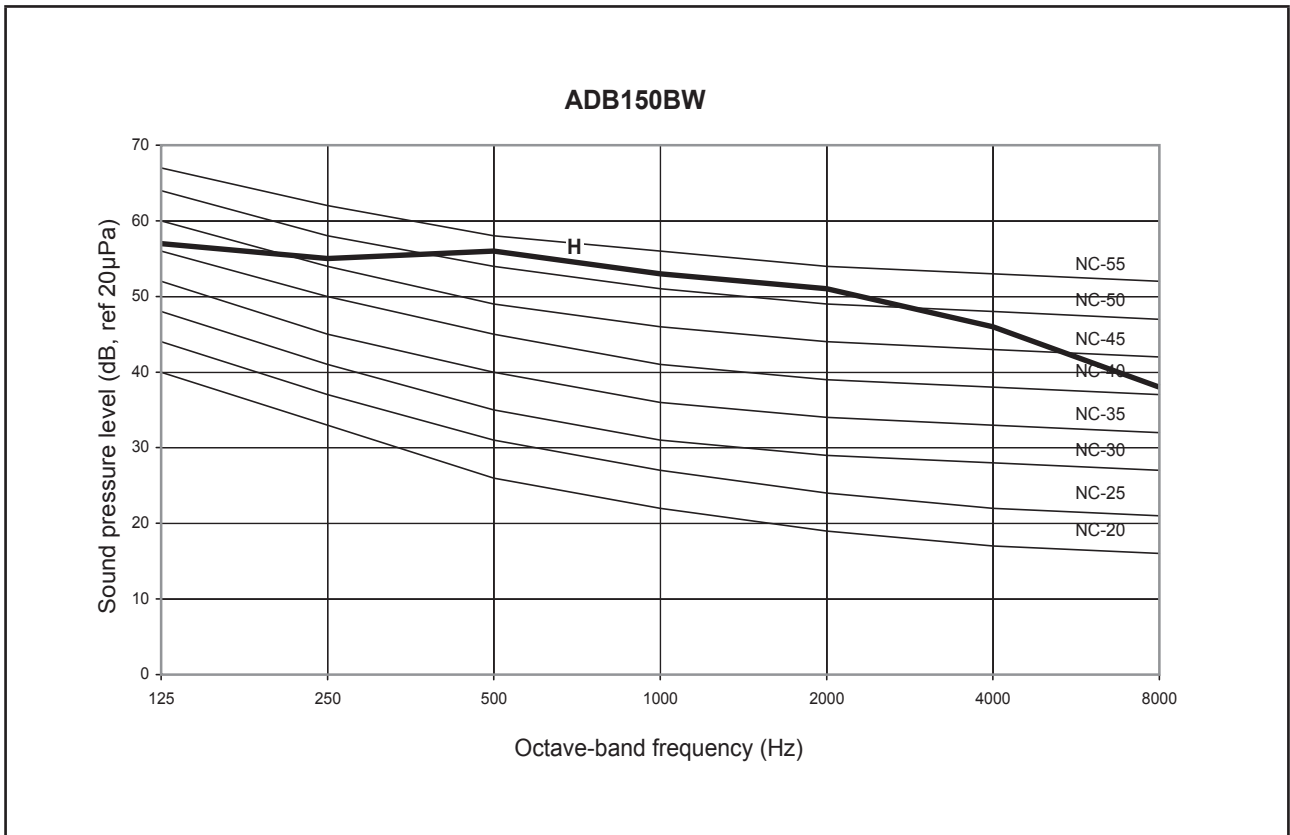












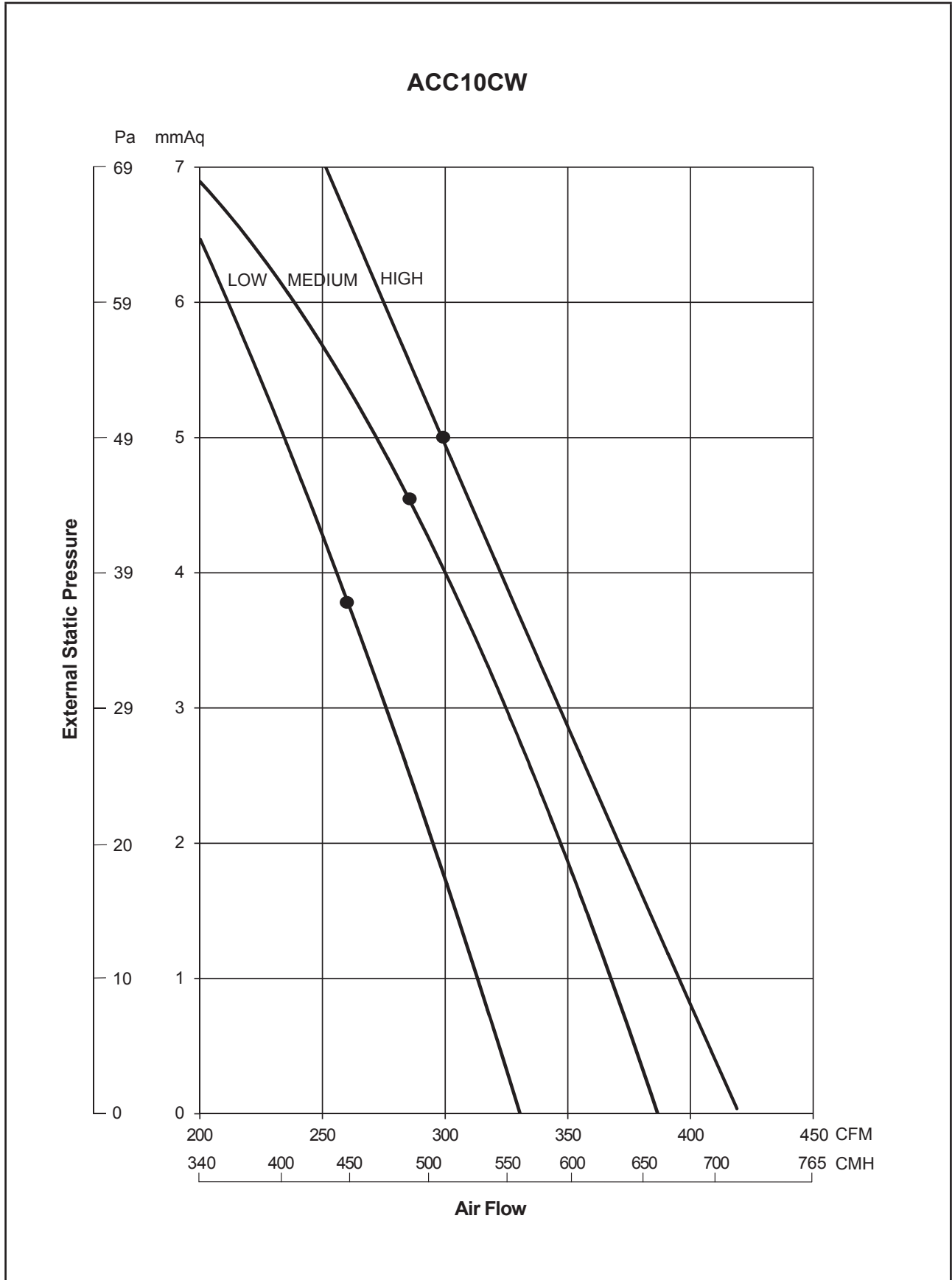
# SELECTION PROCESS

The following table summarizes the pulley data, motor size used for the ADB series, as manufactured:

Model	Pulley Center Distance, C		Motor, kW	Motor RPM	Motor Pulley Diameter, Dm	Blower Pulley, Db
	Horizontal	Vertical			Taper #	Taper #
	(mm)	(mm)			(mm)	(mm)
<b>ADB125BW</b>	340	350	1.5	1500	80	150
<b>ADB150BW</b>	320	N/A	2.2	1500	80	160

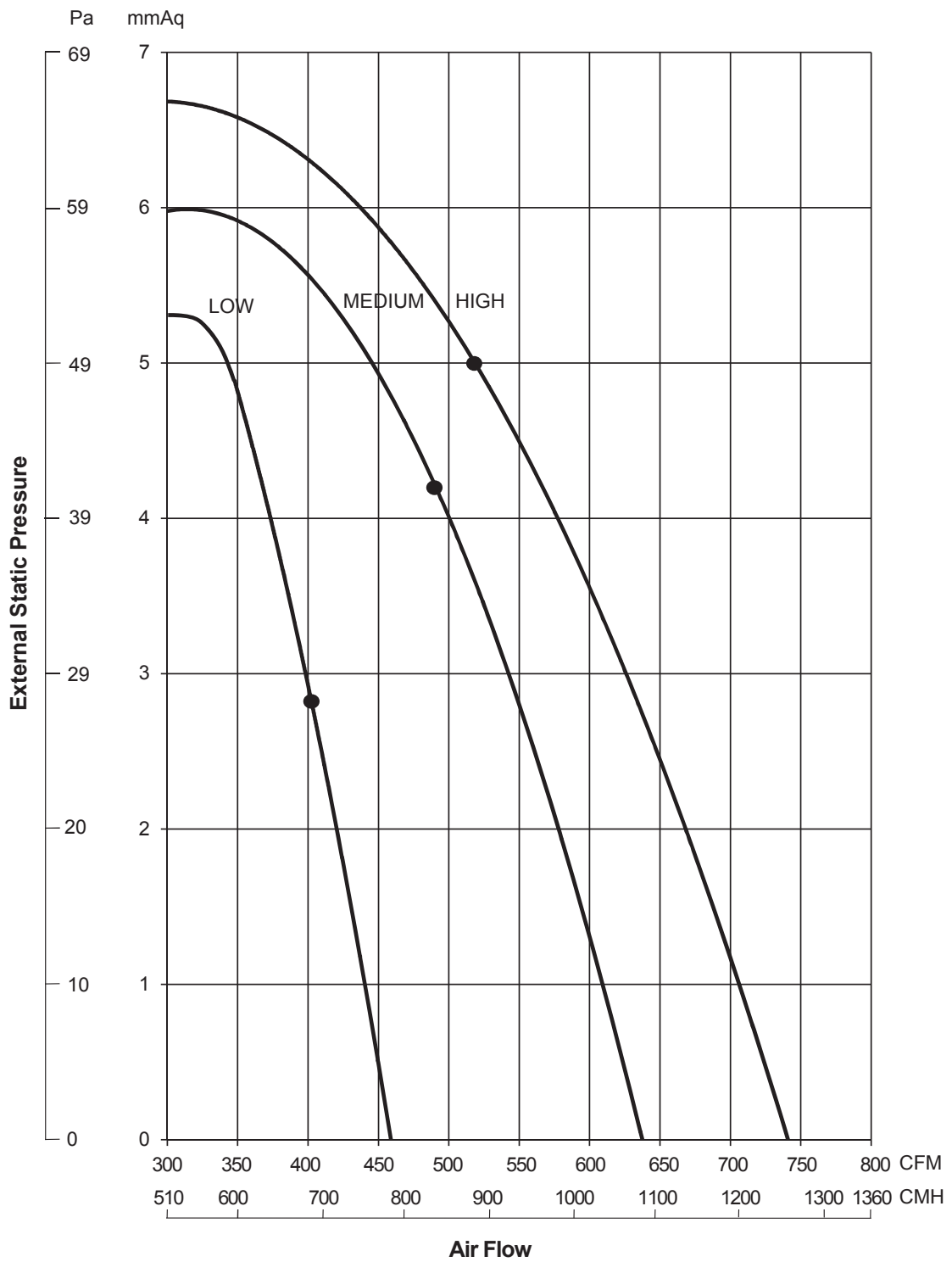
# FAN PERFORMANCE CHART

## Fan Performance Curve

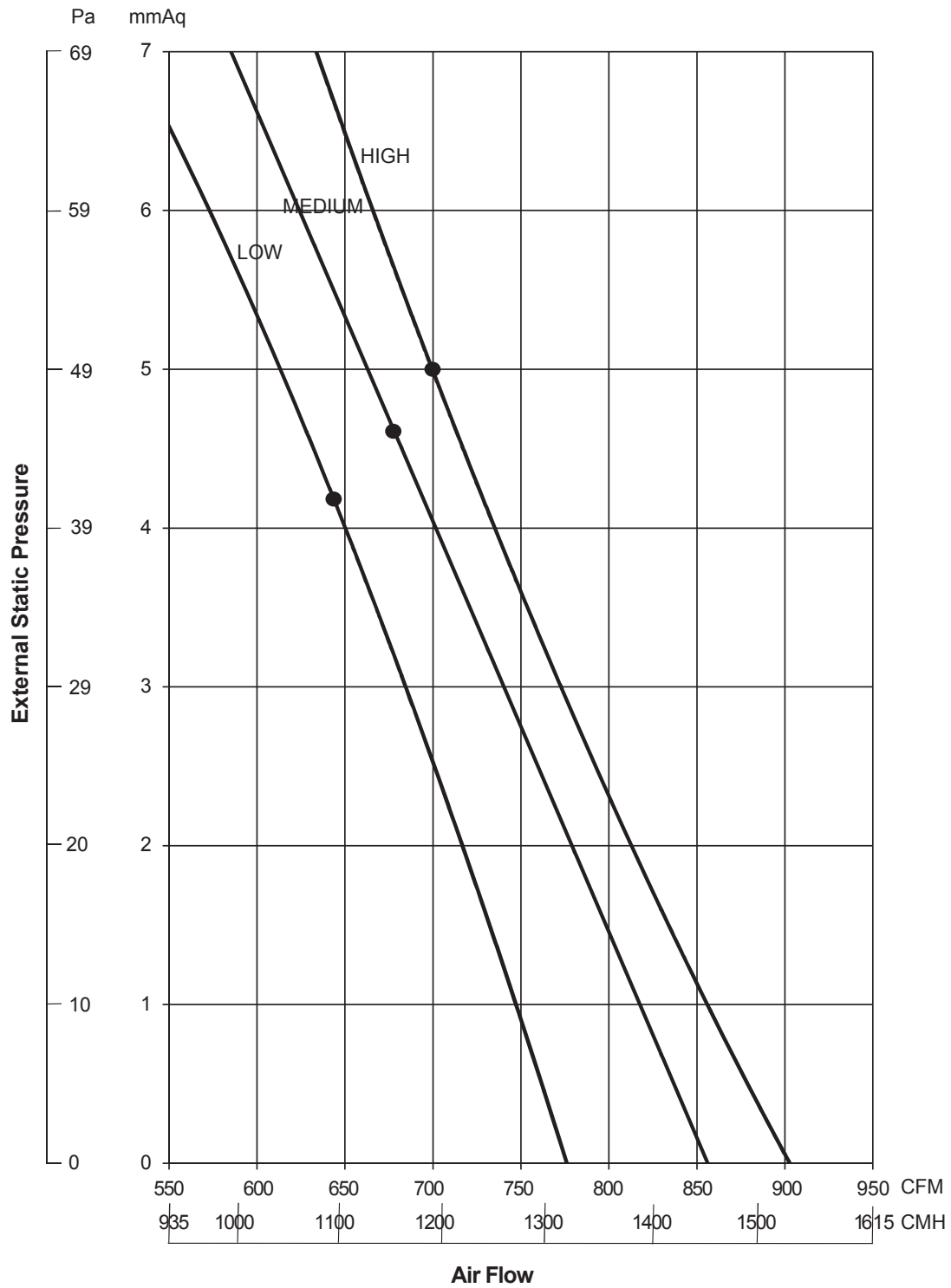




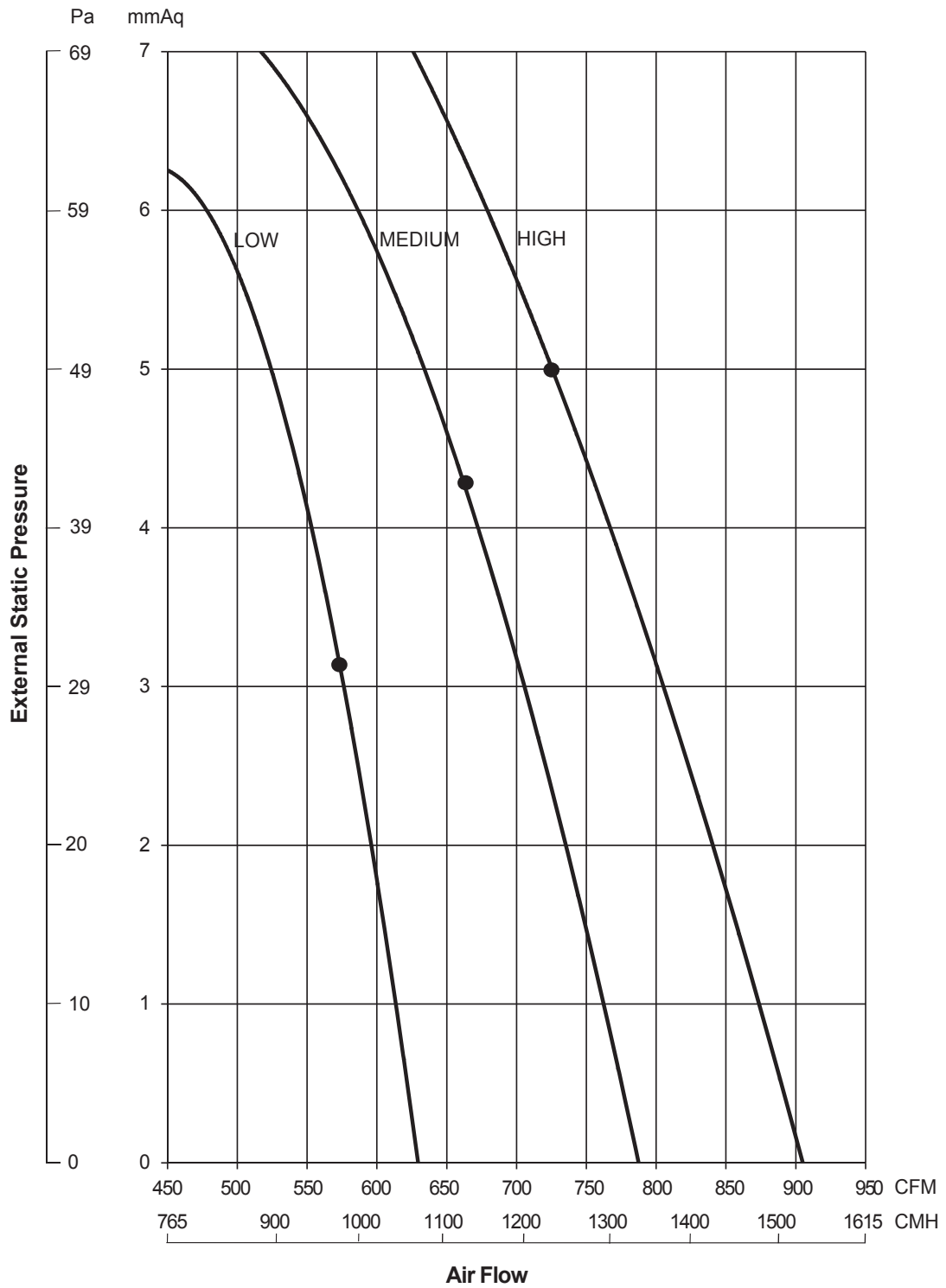
# ACC15CW



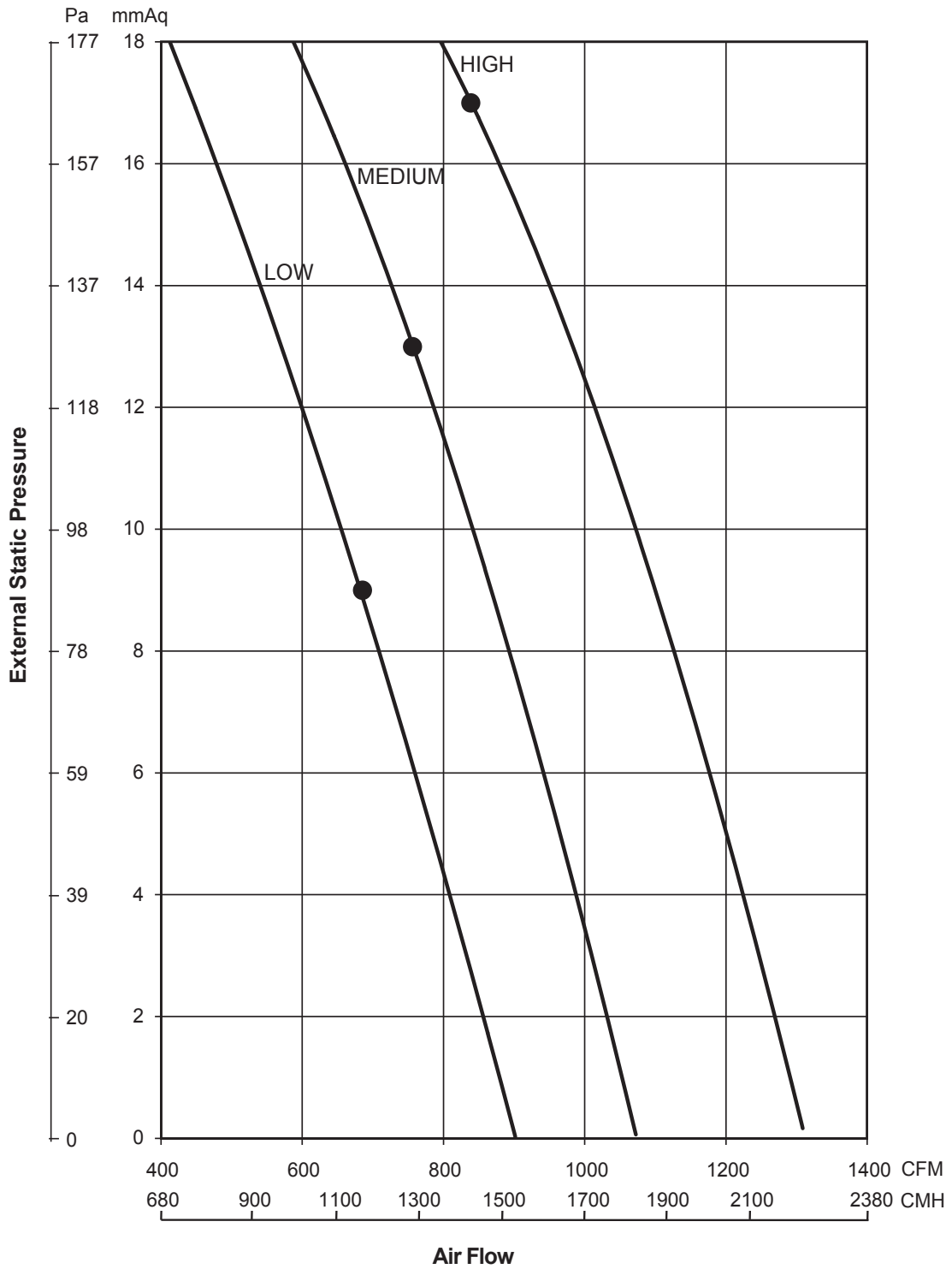
**ACC20CW**



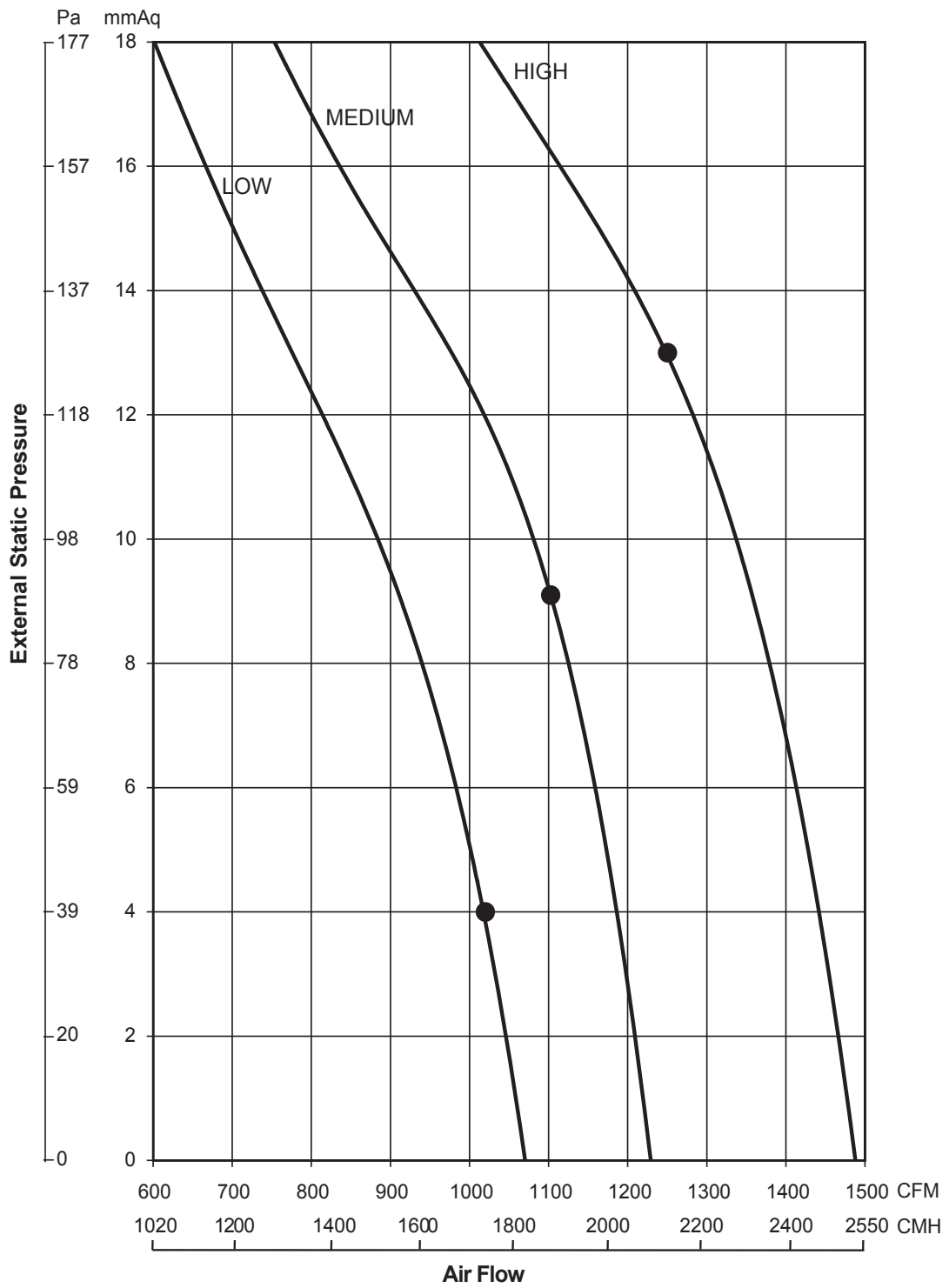
# ACC25CW



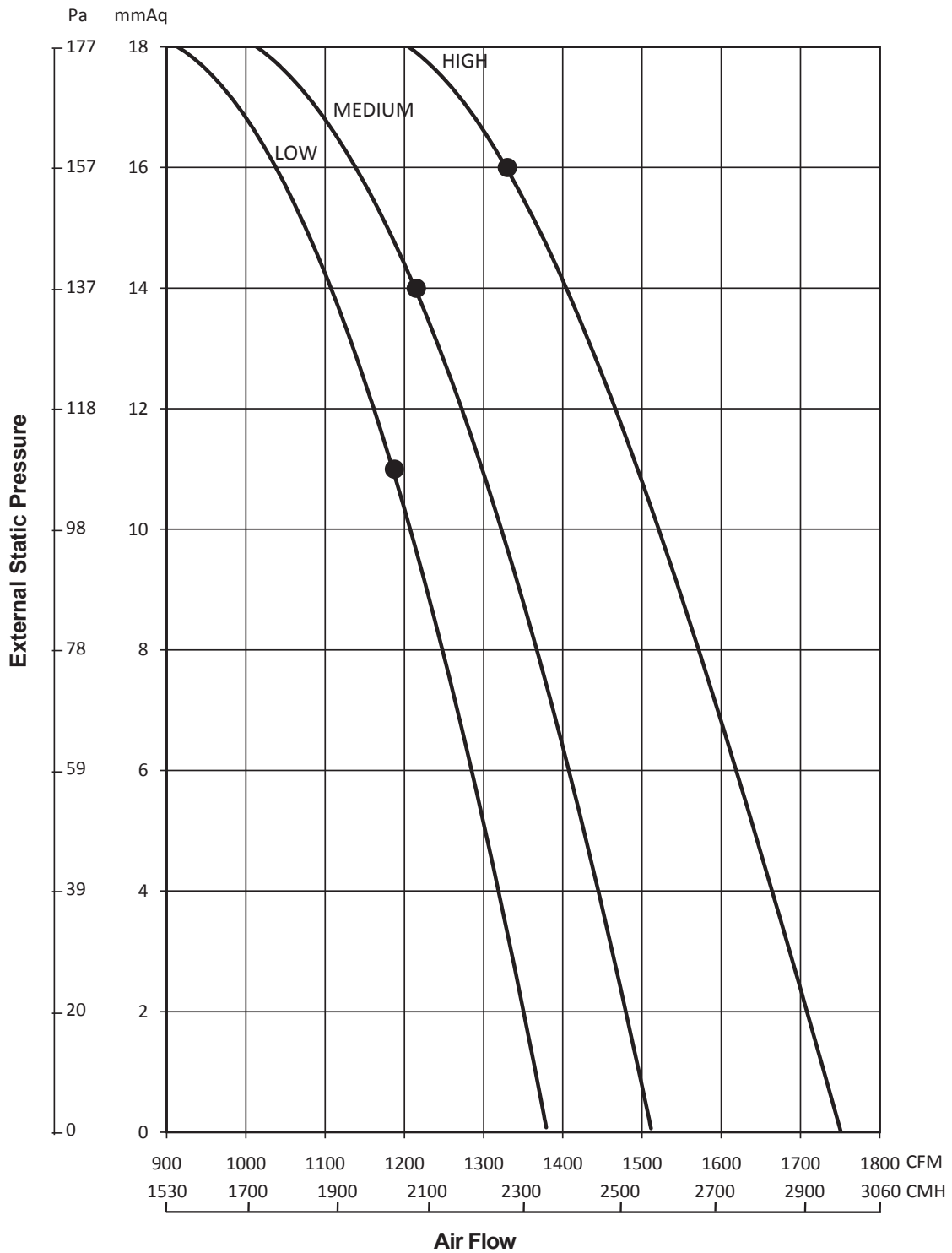
**ACC30CW**



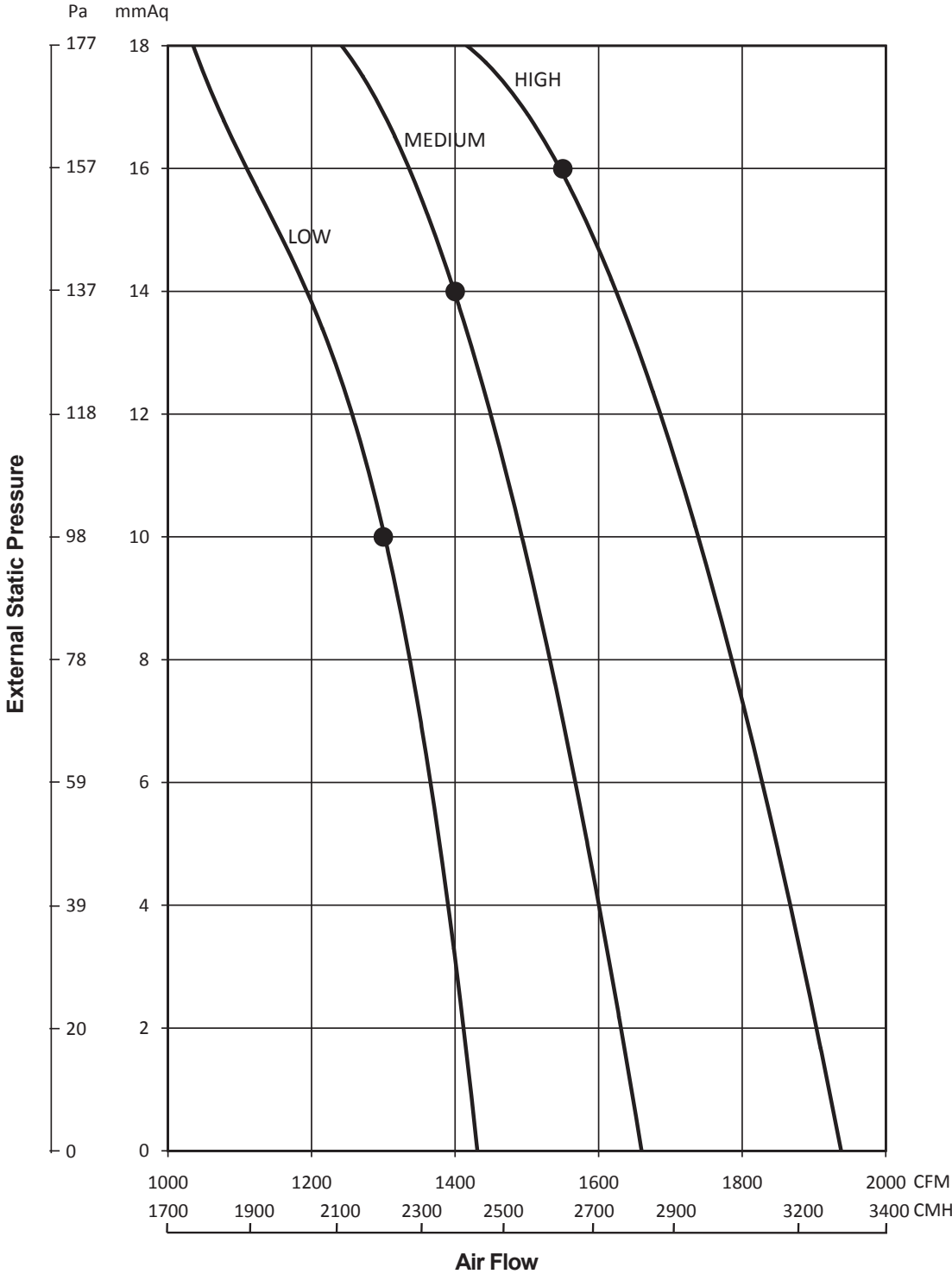
### ACC40CW



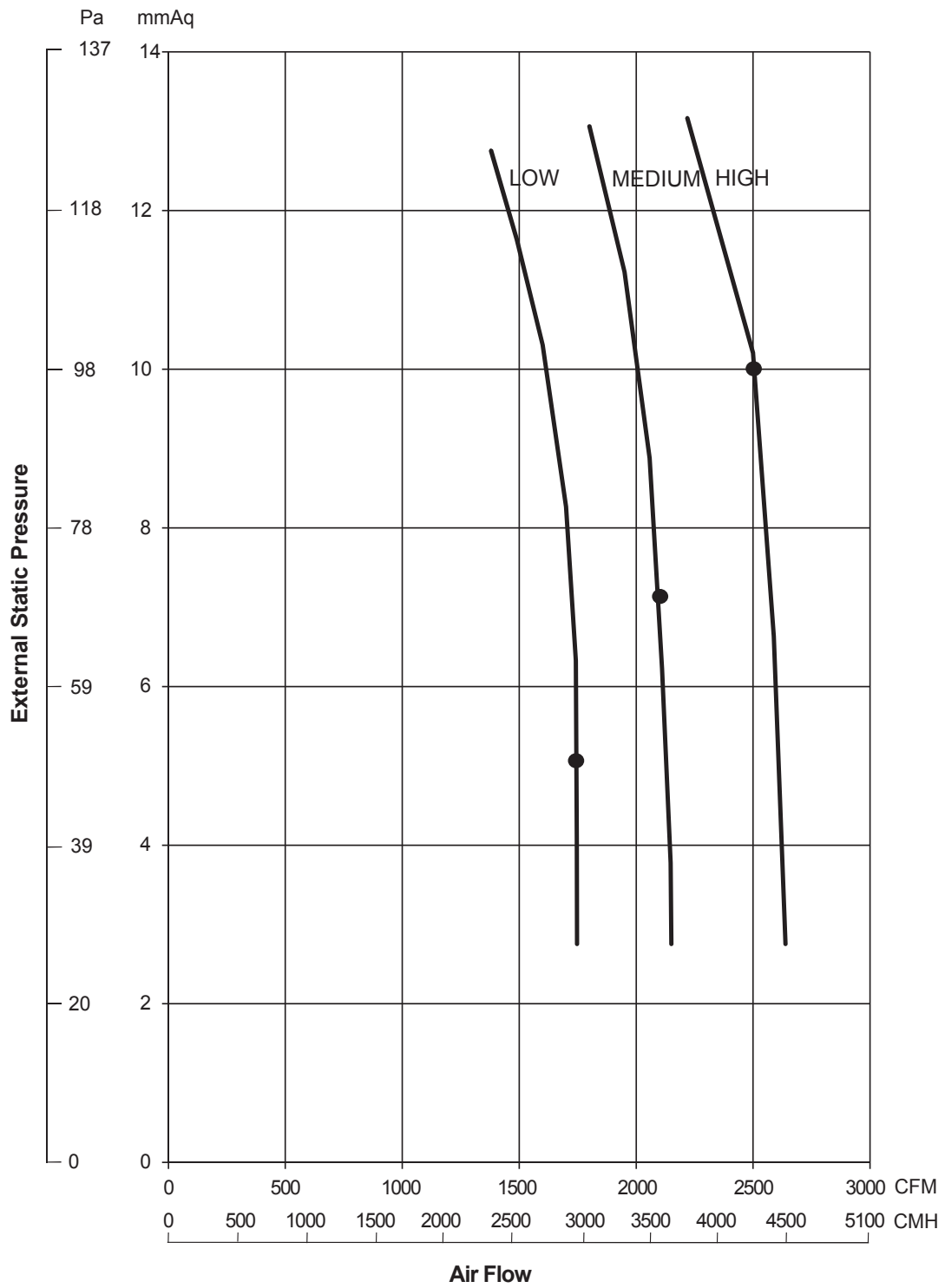
**ACC50CW**



# ACC60CW

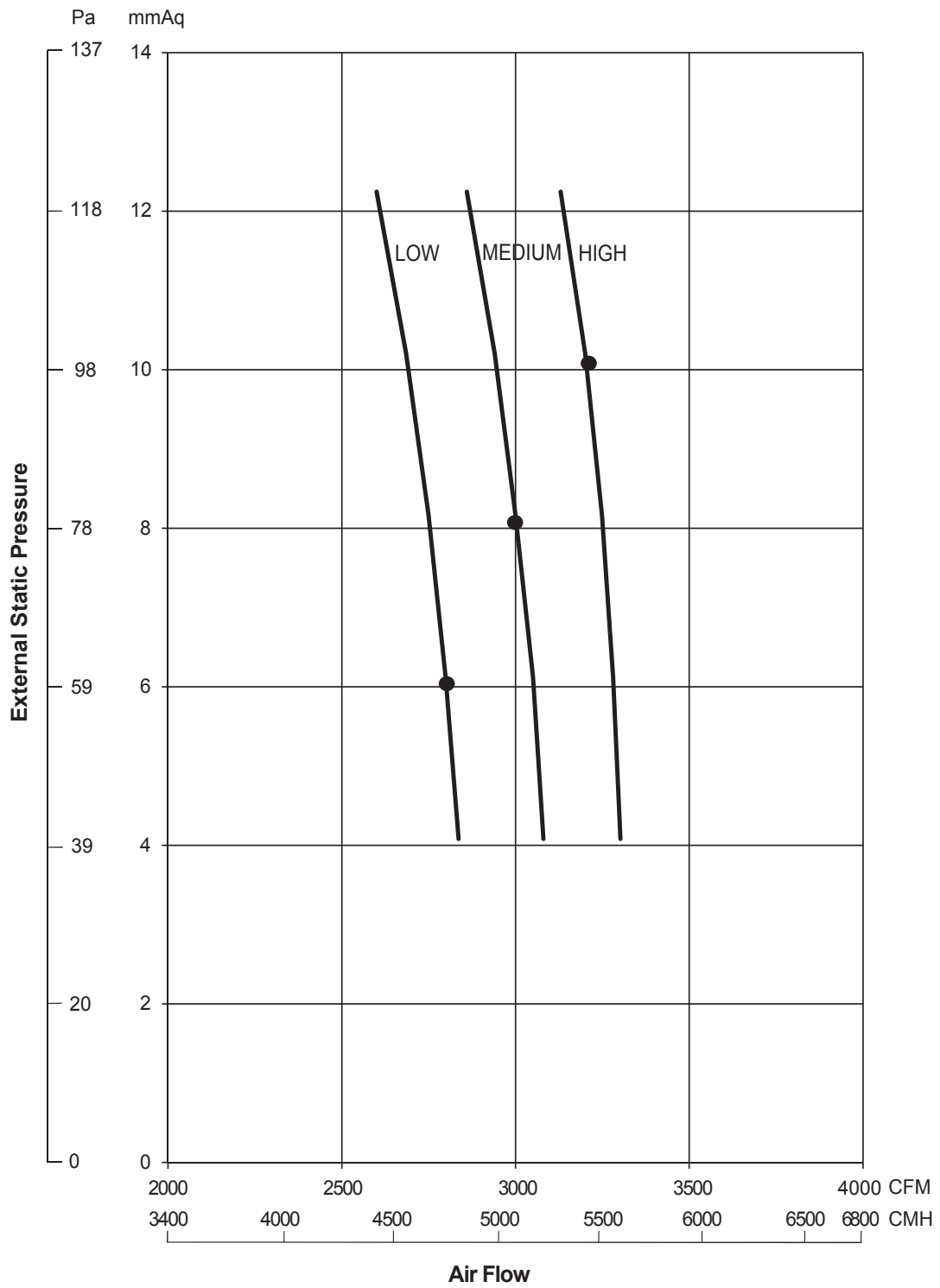


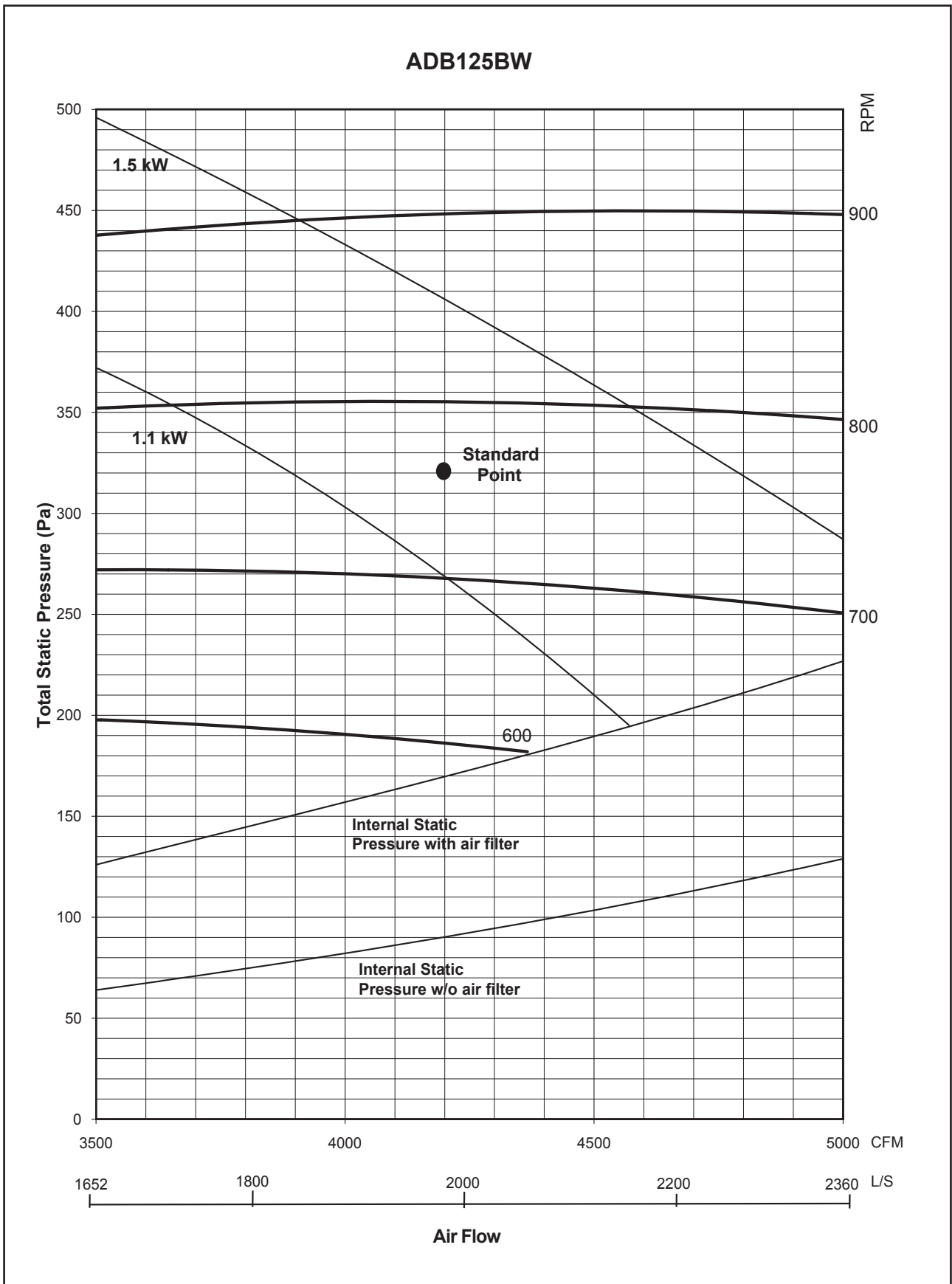
**ADB75BW**



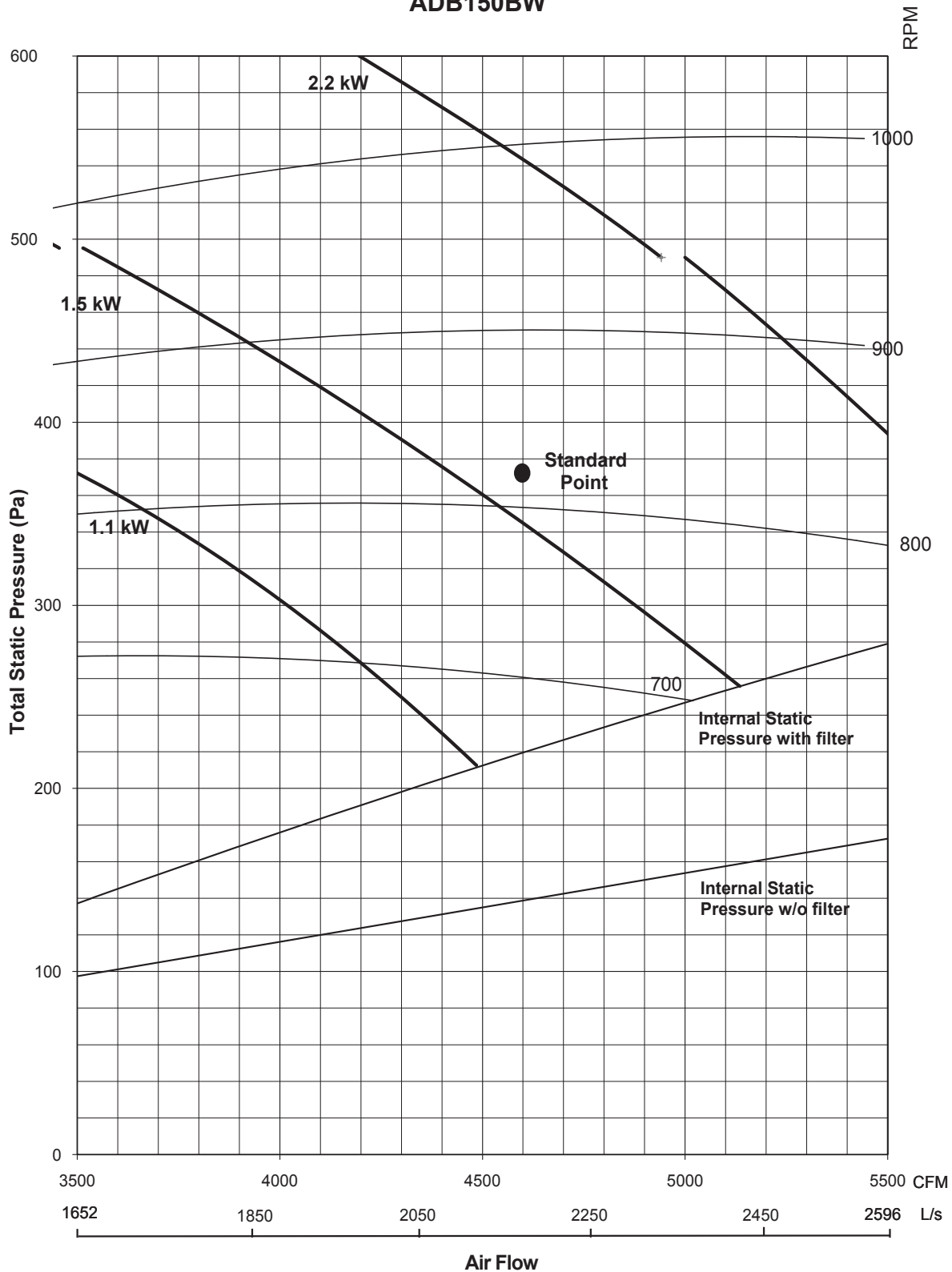


# ADB100BW





### ADB150BW



# ENGINEERING & PHYSICAL DATA

## Engineering Data - Chilled Water Fan Coil Unit

MODEL			AWM07LW	AWM10LW	AWM15LW	AWM20LW	AWM25LW	
NOMINAL COOLING CAPACITY	Btu/h		8300	9200	11300	15500	18000	
	W		2430	2700	3310	4540	5280	
NOMINAL SENSIBLE COOLING CAPACITY	Btu/h		6300	6900	9000	11700	14000	
	W		1850	2020	2640	3430	4100	
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)	Btu/h		11000	12000	15000	20500	25000	
	W		3220	3520	4400	6010	7330	
NOMINAL TOTAL INPUT POWER	W		31	32	42	57	72	
NOMINAL RUNNING CURRENT	A		0.20	0.20	0.21	0.30	0.34	
POWER SOURCE	V/Ph/Hz		220-240 / 1 / 50					
REFRIGERANT TYPE	N/A							
CONTROL	AIR DISCHARGE OPERATION		AUTOMATIC LOUVER (UP & DOWN)					
			LCD WIRELESS MICRO-COMPUTER REMOTE CONTROL					
AIR FLOW	HIGH	CFM	260	280	370	510	620	
	MEDIUM	CFM	230	250	320	450	520	
	LOW	CFM	200	220	260	390	460	
	QUIET	CFM	180	190	240	360	440	
NOMINAL WATER FLOW RATE	USGPM		1.85	2.03	2.51	3.43	4.01	
	litres/min		7.00	7.68	9.50	13.00	15.18	
HEAD LOSS (COOLING)	kPa		34.0	24.0	31.0	30.0	36.0	
HEAD LOSS (HEATING) : 50°C	kPa		29.0	20.0	25.0	27.0	33.0	
MAX. WORKING PRESSURE	kPa		1608					
SURFACE AIR VELOCITY	m/s		0.68	0.74	0.97	0.83	1.01	
SOUND PRESSURE LEVEL (H/M/L)	dBA		34 / 29 / 25 / 24	35 / 30 / 25 / 24	42 / 39 / 32 / 29	42 / 38 / 34 / 32	46 / 42 / 39 / 37	
UNIT DIMENSION	H X W X D	mm	288 X 800 X 206			310 X 1065 X 224		
PACKING DIMENSION	H X W X D	mm	344 x 874 x 274			386 X 1136 X 314		
UNIT WEIGHT	kg		9			14		
CONDENSATE DRAIN SIZE	mm		19.05					
PIPE CONNECTION	mm		12.70					
FAN	TYPE		CROSS FLOW FAN					
	DRIVE		DIRECT					
	FAN SPEED	HIGH	RPM	1030	1050	1310	1035	1250
		MEDIUM	RPM	890	910	1150	920	1070
		LOW	RPM	760	780	955	825	970
	FAN EFFICIENCY	HIGH	%	26.70	24.20	21.00	21.60	20.90
		MEDIUM	%	25.30	22.70	22.10	21.70	22.20
		LOW	%	24.80	21.60	22.80	23.10	22.80
FAN MOTOR	TYPE		INDUCTION					
	INDEX OF PROTECTION (IP)		IP20			IP44		
	INSULATION GRADE		E					
	RATED INPUT POWER	HIGH	W	31	32	42	57	72
		MEDIUM	W	29	31	37	50	68
		LOW	W	25	29	33	43	60
	RATED RUNNING CURRENT	HIGH	A	0.20	0.20	0.21	0.30	0.34
		MEDIUM	A	0.19	0.20	0.20	0.29	0.32
		LOW	A	0.17	0.19	0.19	0.26	0.31
	STARTING CURRENT	A	0.40	0.40	0.40	0.30	0.43	
	MOTOR OUTPUT	W	18	18	18	26	30	
	MOTOR EFFICIENCY	HIGH	%	27.40	29.00	44.00	36.50	48.00
MEDIUM		%	19.30	21.00	36.00	29.00	36.00	
LOW		%	13.00	15.00	22.50	24.00	29.00	
POLES		4						
COIL	TUBE	MATERIAL	COPPER					
		DIAMETER	7.00					
	FIN	MATERIAL	ALUMINIUM					
		FACE AREA	m <sup>2</sup>	0.18	0.18	0.18	0.29	0.29
ROW		2						
WATER VOLUME		litre	0.52	0.58	0.58	0.95	0.95	
AIR QUALITY	FILTER	TYPE	WASHABLE SARANET FILTER					
		QUANTITY	2					
CASING	COLOUR	WHITE						

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System)
LEAVING WATER TEMPERATURE	12°C	70°C (4 Pipes System)
		60°C (4 Pipes System)

ALL SPECIFICATIONS ARE SUBJECT TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

## Engineering Data - Chilled Water Fan Coil Unit

MODEL			AWM301W	ACK10CW	ACK15CW	ACK20CW	
NOMINAL COOLING CAPACITY	Btu/h		22000	8500	14000	15500	
	W		6450	2490	4100	4540	
NOMINAL SENSIBLE COOLING CAPACITY	Btu/h		16720	6500	10000	11500	
	W		4900	1910	2930	3370	
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)	Btu/h		23000	12000	16000	18000	
	W		6740	3520	4690	5280	
NOMINAL TOTAL INPUT POWER	W		74	63	64	79	
NOMINAL RUNNING CURRENT	A		0.32	0.28	0.28	0.35	
POWER SOURCE	V/Ph/Hz		220-240 / 1 / 50				
REFRIGERANT TYPE	N/A						
CONTROL	AIR DISCHARGE OPERATION		AUTOMATIC LOUVER (UP & DOWN)	4 WAY AUTOMATIC LOUVER (UP & DOWN)			
			LCD WIRELESS MICRO-COMPUTER REMOTE CONTROL				
AIR FLOW	HIGH	CFM	670	380	400	440	
	MEDIUM	CFM	630	290	310	330	
	LOW	CFM	500	230	220	280	
NOMINAL WATER FLOW RATE	USGPM		4.90	2.03	3.43	3.57	
	litres/min		18.50	7.68	12.98	13.51	
HEAD LOSS (COOLING)	kPa		52.2	19.3	26.9	28.8	
HEAD LOSS (HEATING) : 50°C	kPa		18.8	16.8	23.9	26.5	
MAX. WORKING PRESSURE	kPa		1608				
SURFACE AIR VELOCITY	m/s		1.09	0.75	0.76	0.83	
SOUND PRESSURE LEVEL (H/M/L)	dBA		49 / 47 / 45	42 / 35 / 29	45 / 38 / 30	48 / 40 / 36	
UNIT DIMENSION - ( ) WITH PANEL	H X W X D	mm	291 x 815 x 181	250 X 570 X 570 (295 X 640 X 640)			
PACKING DIMENSION - ( ) PANEL	H X W X D	mm	760 x 1311 x 301	316 X 630 X 630 (126 X 700 X 726)			
UNIT WEIGHT (UNIT + PANEL)	kg		17.6	15 + 3	17 + 3	17 + 3	
CONDENSATE DRAIN SIZE	mm		19.05	19.05		19.05	
PIPE CONNECTION	mm		12.70	19.05			
INDOOR UNIT	FAN	TYPE		CROSS FLOW FAN	TURBO FAN		
		DRIVE		DIRECT			
	FAN SPEED	HIGH	RPM	1322	725	810	900
		MEDIUM	RPM	1240	565	630	700
		LOW	RPM	1112	460	480	610
	FAN EFFICIENCY	HIGH	%	N/A	38.30	46.90	25.90
		MEDIUM	%	N/A	35.10	45.40	32.30
		LOW	%	N/A	46.70	46.10	21.50
	FAN MOTOR	TYPE		INDUCTION			
		INDEX OF PROTECTION (IP)		IPX0	IP20		
INSULATION GRADE		B	B				
RATED INPUT POWER		HIGH	W	74	63	64	79
		MEDIUM	W	59	51	58	73
		LOW	W	46	46	52	69
RATED RUNNING CURRENT		HIGH	A	0.32	0.28	0.28	0.35
		MEDIUM	A	0.26	0.23	0.25	0.32
		LOW	A	0.21	0.21	0.24	0.31
STARTING CURRENT		A		N/A	0.32	0.30	0.47
MOTOR OUTPUT	W		40	17	23	28	
MOTOR EFFICIENCY	HIGH	%	N/A	32.20	44.50	49.20	
	MEDIUM	%	N/A	20.50	23.60	24.00	
	LOW	%	N/A	12.30	11.20	14.80	
POLES			4	6			
COIL	TUBE	MATERIAL		COPPER			
		DIAMETER		9.52	7.00		
	FIN	MATERIAL		ALUMINIUM			
		FACE AREA	m <sup>2</sup>	0.29	0.24	0.25	0.25
		ROW		2	1	2	2
WATER VOLUME	litre		1.43	0.43	0.83	0.83	
AIR QUALITY	FILTER	TYPE	WASHABLE SARANET FILTER				
CASING		QUANTITY	2	1			
		COLOUR	WHITE	LIGHT GREY			

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System) 70°C (4 Pipes System)
LEAVING WATER TEMPERATURE	12°C	60°C (4 Pipes System)

ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

## Engineering Data - Chilled Water Fan Coil Unit

MODEL		ACK20EW	ACK25EW	ACK30EW	ACK40EW	ACK50EW		
NOMINAL COOLING CAPACITY	Btu/h	21000	25000	30000	38000	43000		
	W	6150	7330	8790	11140	12600		
NOMINAL SENSIBLE COOLING CAPACITY	Btu/h	16700	19200	22300	27400	31000		
	W	4890	5630	6540	8030	9090		
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)	Btu/h	28000	33600	38300	45500	52000		
	W	8210	9850	11230	13340	15240		
NOMINAL TOTAL INPUT POWER	W	95	126	167	186	227		
NOMINAL RUNNING CURRENT	A	0.44	0.55	0.74	0.85	1.03		
POWER SOURCE	V/Ph/Hz	220-240 / 1 / 50						
REFRIGERANT TYPE		N/A						
CONTROL	AIR DISCHARGE OPERATION	4 WAY AUTOMATIC LOUVER (UP & DOWN)						
		LCD WIRELESS MICRO-COMPUTER REMOTE CONTROL						
AIR FLOW	HIGH	CFM	750	860	890	1000	1140	
	MEDIUM	CFM	620	700	720	840	1000	
	LOW	CFM	480	540	570	680	840	
	QUIET	CFM	320	380	420	540	700	
NOMINAL WATER FLOW RATE	USGPM	4.71	5.59	6.69	8.45	9.60		
	litres/min	17.83	21.17	25.29	31.94	36.29		
HEAD LOSS (COOLING)	kPa	20	37	22	44	53		
HEAD LOSS (HEATING) : 50°C	kPa	19	33	19	38	47		
MAX. WORKING PRESSURE	kPa	1600						
SURFACE AIR VELOCITY	m/s	0.91	1.04	1.14	1.03	1.17		
SOUND PRESSURE LEVEL (H/M/L/Q)	dBA	42 / 38 / 32 / 23	46 / 42 / 35 / 27	48 / 43 / 38 / 30	50 / 47 / 43 / 33	52 / 49 / 45 / 39		
UNIT DIMENSION - ( ) WITH PANEL	H X W X D	265 X 820 X 820 (340 X 990 X 990)			300 X 820 X 820 (375 X 990 X 990)			
PACKING DIMENSION - ( ) PANEL	H X W X D	341 X 916 X 916 (125 X 1020 X 1020)			376 X 916 X 916 (125 X 1020 X 1020)			
UNIT WEIGHT (UNIT + PANEL)	kg	26 + 4	26 + 4	28 + 4	32 + 4	32 + 4		
CONDENSATE DRAIN SIZE	mm	19.05						
PIPE CONNECTION	mm	19.05						
FAN	TYPE	TURBO FAN						
	DRIVE	DIRECT						
	FAN SPEED	HIGH	RPM	530	600	660	710	800
		MEDIUM	RPM	450	500	550	610	710
LOW		RPM	360	400	450	510	610	
FAN MOTOR	TYPE	INDUCTION						
	INDEX OF PROTECTION (IP)	IP20						
	INSULATION GRADE	B						
	RATED INPUT POWER	HIGH	W	95	126	167	186	227
		MEDIUM	W	79	103	109	151	176
		LOW	W	67	89	86	118	144
	RATED RUNNING CURRENT	HIGH	A	0.44	0.55	0.74	0.85	1.03
		MEDIUM	A	0.40	0.45	0.49	0.71	0.82
		LOW	A	0.36	0.39	0.39	0.57	0.69
	STARTING CURRENT	A	0.44	0.71	0.89	1.02	1.28	
MOTOR OUTPUT	W	30	45	65	80	110		
POLES		8						
COIL	TUBE	MATERIAL	COPPER					
		DIAMETER	mm	7.00				
	FIN	MATERIAL	ALUMINIUM					
		FACE AREA	m <sup>2</sup>	0.39	0.39	0.37	0.46	0.46
		ROW		2	2	3	3	3
	WATER VOLUME	litre	1.36	1.34	1.97	2.35	2.35	
AIR QUALITY	FILTER	TYPE	WASHABLE SARANET FILTER					
		QUANTITY	pc	1				
CASING		COLOUR	LIGHT GREY					

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System) 70°C (4 Pipes System)
LEAVING WATER TEMPERATURE	12°C	60°C (4 Pipes System)

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## Engineering Data - Chilled Water Fan Coil Unit

MODEL			ACM15EW	ACM20EW	ACM25EW	
NOMINAL COOLING CAPACITY	Btu/h		15500	20300	21000	
	W		4540	5950	6150	
NOMINAL SENSIBLE COOLING CAPACITY	Btu/h		12700	15400	16200	
	W		3720	4510	4750	
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)	Btu/h		19500	25000	28000	
	W		5720	7330	8210	
NOMINAL TOTAL INPUT POWER	W		101	109	113	
NOMINAL RUNNING CURRENT	A		0.46	0.49	0.52	
POWER SOURCE	V/Ph/Hz		220-240 / 1 / 50			
REFRIGERANT TYPE	N/A					
CONTROL	AIR DISCHARGE OPERATION		AUTOMATIC LOUVER (UP & DOWN)			
			LCD WIRELESS MICRO-COMPUTER REMOTE CONTROL			
AIR FLOW	HIGH	CFM	520	580	640	
	MEDIUM	CFM	460	530	560	
	LOW	CFM	406	490	460	
NOMINAL WATER FLOW RATE		USGPM	3.43	4.49	4.67	
		litres/min	12.98	17.00	17.68	
HEAD LOSS (COOLING)		kPa	27	48	57	
HEAD LOSS (HEATING) : 50°C		kPa	24	42	50	
MAX. WORKING PRESSURE		kPa	1608			
SURFACE AIR VELOCITY		m/s	0.72	0.83	1.54	
SOUND PRESSURE LEVEL (H/M/L)		dBA	45 / 38 / 36	48 / 43 / 39	49 / 46 / 41	
UNIT DIMENSION	H X W X D	mm	212 X 1090 X 630			
PACKING DIMENSION	H X W X D	mm	297 X 1197 X 740			
UNIT WEIGHT		kg	27			
CONDENSATE DRAIN SIZE		mm	19.05			
PIPE CONNECTION		mm	12.50			
FAN	TYPE		CROSS FLOW FAN			
	DRIVE		DIRECT			
	FAN SPEED	HIGH	RPM	1220	1300	1400
		MEDIUM	RPM	990	1100	1200
		LOW	RPM	890	930	1000
	FAN EFFICIENCY	HIGH	%	30.2	27.6	14.9
		MEDIUM	%	34.9	26.7	15.8
LOW		%	34.7	27.1	20	
FAN MOTOR	TYPE		INDUCTION			
	INDEX OF PROTECTION (IP)		IP22			
	INSULATION GRADE		B			
	RATED INPUT POWER	HIGH	W	86	135	160
		MEDIUM	W	58	97	113
		LOW	W	51	83	91
	RATED RUNNING CURRENT	HIGH	A	0.38	0.67	0.79
		MEDIUM	A	0.26	0.45	0.52
		LOW	A	0.23	0.39	0.44
	STARTING CURRENT	A	1.10	1.20	1.30	
	MOTOR OUTPUT	W	50	65	70	
MOTOR EFFICIENCY	HIGH	%	50.7	50.6	54.0	
	MEDIUM	%	36.5	37.3	43.1	
	LOW	%	29.7	25.8	35.7	
POLES			4			
COIL	TUBE	MATERIAL	COPPER			
		DIAMETER	6.35			
	FIN	MATERIAL	ALUMINIUM			
		FACE AREA	0.33			
	ROW		3			
WATER VOLUME	litre	1.11				
AIR QUALITY	FILTER	TYPE	WASHABLE SARANET FILTER			
CASING		QUANTITY	2			
		COLOUR	LIGHT GREY			

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System) 70°C (4 Pipes System)
LEAVING WATER TEMPERATURE	12°C	60°C (4 Pipes System)

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## Engineering Data - Chilled Water Fan Coil Unit

MODEL			ACC10CW	ACC15CW	ACC20CW	ACC25CW	
NOMINAL COOLING CAPACITY	Btu/h		9900	11600	18000	22500	
	W		2900	3400	5280	6590	
NOMINAL SENSIBLE COOLING CAPACITY	Btu/h		7000	8120	12600	15750	
	W		2050	2380	3690	4620	
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)	Btu/h		11500	15000	23000	29000	
	W		3370	4400	6740	8500	
NOMINAL TOTAL INPUT POWER	W		89	140	168	182	
NOMINAL RUNNING CURRENT	A		0.40	0.65	0.77	0.86	
POWER SOURCE	V/Ph/Hz		220-240 / 1 / 50				
REFRIGERANT TYPE			N/A				
CONTROL OPERATION	AIR DISCHARGE		DUCTED				
	OPERATION		WIRED REMOTE HANDSET				
AIR FLOW	HIGH	CFM	300	510	700	730	
	MEDIUM	CFM	285	490	675	660	
	LOW	CFM	260	400	640	580	
EXTERNAL STATIC PRESSURE	Pa		49 / 44 / 36	49 / 42 / 28	49 / 45 / 41	49 / 43 / 30	
NOMINAL WATER FLOW RATE	USGPM		2.20	2.60	4.05	5.06	
	litres/min		8.33	9.84	15.33	19.15	
HEAD LOSS (COOLING)	kPa		10.5	24.0	20.1	32.4	
HEAD LOSS (HEATING) : 50°C	kPa		8.8	20.3	17.0	27.6	
MAX. WORKING PRESSURE	kPa		1608				
SURFACE AIR VELOCITY	m/s		1.29	1.72	1.83	1.72	
SOUND PRESSURE LEVEL (H/M/L)	dBA		36 / 35 / 33	40 / 38 / 33	42 / 41 / 40	41 / 40 / 36	
UNIT DIMENSION	H X W X D	mm	267 x 702 x 351	267 x 842 x 351	267 x 1002 x 351	267 x 1137 x 351	
PACKING DIMENSION	H X W X D	mm	376 x 951 x 541	376 x 1091 x 541	376 x 1251 x 541	376 x 1386 x 541	
UNIT WEIGHT	kg		18	22	24	26	
CONDENSATE DRAIN SIZE	mm		19.05				
PIPE CONNECTION	mm		19.05				
FAN	TYPE		BLOWER				
	DRIVE		DIRECT				
	FAN SPEED	HIGH	RPM	1221	1211	1410	1355
		MEDIUM	RPM	1172	1047	1328	1215
		LOW	RPM	1123	835	1133	937
	FAN EFFICIENCY	HIGH	%	38.70	42.90	39.70	36.20
		MEDIUM	%	40.70	51.90	47.50	38.10
LOW		%	43.00	50.30	48.90	39.10	
FAN MOTOR	TYPE		INDUCTION				
	INDEX OF PROTECTION (IP)		IP20				
	INSULATION GRADE		B				
	RATED INPUT POWER	HIGH	W	89	140	168	182
		MEDIUM	W	86	128	165	175
		LOW	W	78	127	163	163
	RATED RUNNING CURRENT	HIGH	A	0.40	0.65	0.77	0.86
		MEDIUM	A	0.39	0.59	0.73	0.77
		LOW	A	0.35	0.59	0.71	0.71
	STARTING CURRENT	A		0.73	1.66	1.22	1.86
	MOTOR OUTPUT	W		38	72	80	90
	MOTOR EFFICIENCY	HIGH	%	47.90	49.70	56.40	57.50
MEDIUM		%	42.40	39.60	50.90	48.40	
LOW		%	33.60	24.80	44.10	30.40	
POLES			4				
COIL	TUBE	MATERIAL	COPPER				
		DIAMETER	9.52				
	FIN	MATERIAL	ALUMINIUM				
		FACE AREA	m <sup>2</sup>	0.11	0.14	0.18	0.20
		ROW		3			
WATER VOLUME	litre	0.94	1.15	1.43	1.63		
AIR QUALITY FILTER	TYPE	WASHABLE SARANET FILTER					
	QUANTITY	pc	1	1	1	1	
CASING	COLOUR		N/A				

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System) 70°C (4 Pipes System)
LEAVING WATER TEMPERATURE	12°C	60°C (4 Pipes System)

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## Engineering Data - Chilled Water Fan Coil Unit

MODEL				ACC30CW	ACC40CW	ACC50CW	ACC60CW	
NOMINAL COOLING CAPACITY	Btu/h			24800	37000	44700	51800	
	W			7270	10840	13100	15180	
NOMINAL SENSIBLE COOLING CAPACITY	Btu/h			19700	29300	35100	40900	
	W			5770	8590	10290	11990	
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)	Btu/h			32800	48000	54900	65300	
	W			9610	14070	16090	19140	
NOMINAL TOTAL INPUT POWER	W			345	442	427	530	
NOMINAL RUNNING CURRENT	A			1.50	1.93	1.86	2.31	
POWER SOURCE				V/Ph/Hz				220-240 / 1 / 50
REFRIGERANT TYPE				N/A				
CONTROL	AIR DISCHARGE OPERATION			DUCTED				
				WIRED REMOTE HANDSET				
AIR FLOW	HIGH		CFM	830	1240	1340	1550	
	MEDIUM		CFM	760	1100	1220	1400	
	LOW		CFM	710	1020	1190	1300	
EXTERNAL STATIC PRESSURE			Pa	167 / 128 / 88	128 / 88 / 39	157 / 137 / 108	157 / 137 / 98	
NOMINAL WATER FLOW RATE			USGPM	5.55	8.28	10.04	11.62	
			litres/min	21.01	31.34	38.00	43.98	
HEAD LOSS (COOLING)			kPa	14.0	23.0	38.0	51.0	
HEAD LOSS (HEATING) : 50°C			kPa	11.0	19.0	33.0	48.0	
MAX. WORKING PRESSURE			kPa	1608				
SURFACE AIR VELOCITY			m/s	1.40	1.83	1.54	1.52	
SOUND PRESSURE LEVEL (H/M/L)			dBA	46 / 42 / 38	49 / 45 / 41	52 / 50 / 47	53 / 50 / 47	
UNIT DIMENSION		H X W X D	mm	384 x 917 x 462	384 x 1003 x 462	384 x 1287 x 462	384 x 1487 x 462	
PACKING DIMENSION		H X W X D	mm	415 x 1126 x 631	415 x 1245 x 631	415 x 1497 x 631	415 x 1701 x 631	
UNIT WEIGHT			kg	42	44	50	56	
CONDENSATE DRAIN SIZE			mm	19.05				
PIPE CONNECTION			mm	19.05				
INDOOR UNIT	FAN	TYPE		BLOWER				
		DRIVE		DIRECT				
		FAN SPEED	HIGH	RPM	1180	1279	1279	1351
			MEDIUM	RPM	1053	1181	1204	1280
	LOW		RPM	937	1052	1097	1208	
	FAN EFFICIENCY	HIGH	%	37.20	42.20	43.70	41.70	
		MEDIUM	%	39.50	42.90	47.30	43.30	
		LOW	%	41.60	44.30	48.70	43.40	
	FAN MOTOR	TYPE		INDUCTION				
		INDEX OF PROTECTION (IP)		IP20	IP22	IP20	IP20	
INSULATION GRADE		B						
RATED INPUT POWER		HIGH	W	345	442	427	530	
		MEDIUM	W	304	384	388	457	
		LOW	W	270	342	373	405	
RATED RUNNING CURRENT		HIGH	A	1.50	1.93	1.86	2.31	
		MEDIUM	A	1.34	1.69	1.69	2.02	
		LOW	A	1.21	1.54	1.63	1.85	
STARTING CURRENT		A	2.43	3.18	3.50	4.90		
MOTOR OUTPUT		W	310	355	373	500		
MOTOR EFFICIENCY	HIGH	%	60.80	63.80	63.00	68.00		
	MEDIUM	%	47.40	47.50	58.60	59.60		
	LOW	%	34.80	32.30	49.40	46.10		
POLES		4						
COIL	TUBE	MATERIAL		COPPER				
		DIAMETER		9.52				
	FIN	MATERIAL		ALUMINIUM				
		FACE AREA	m <sup>2</sup>	0.28	0.32	0.41	0.48	
	ROW		3	3	3	3		
WATER VOLUME		litre	2.21	2.60	3.33	3.80		
AIR QUALITY	FILTER	TYPE		WASHABLE SARANET FILTER				
		QUANTITY		2				
CASING			COLOUR	N/A				

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System)
		70°C (4 Pipes System)
LEAVING WATER TEMPERATURE	12°C	60°C (4 Pipes System)

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## Engineering Data - Chilled Water Fan Coil Unit

MODEL				ADB75BW	ADB100BW	ADB125BW	ADB150BW				
NOMINAL COOLING CAPACITY				Btu/h	75600	95000	125000	150000			
				W	22160	27840	36640	43960			
NOMINAL SENSIBLE COOLING CAPACITY				Btu/h	53700	69400	90000	106500			
				W	15740	20340	26380	31210			
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50°C)				Btu/h	78000	97500	138000	170000			
				W	22860	28580	40450	49820			
NOMINAL TOTAL INPUT POWER				W	760	1800	1620	1910			
NOMINAL RUNNING CURRENT				A	3.49	7.84	3.33	4.03			
POWER SOURCE				V/Ph/Hz	220-240 / 1 / 50		380-415 / 3 / 50				
REFRIGERANT TYPE				N/A							
CONTROL				AIR DISCHARGE OPERATION							
				DUCTED							
AIR FLOW				WITHOUT CONTROLLER							
				HIGH		CFM	2500	3200	4200	4600	
				MEDIUM		CFM	2100	3000	N/A	N/A	
EXTERNAL STATIC PRESSURE				LOW		CFM	1750	N/A	N/A		
				Pa		100 / 72 / 50	100 / 80 / 60	230	230		
NOMINAL WATER FLOW RATE				USGPM	16.90	21.10	27.70	33.30			
HEAD LOSS (COOLING)				litres/min	64.00	80.00	105.00	126.00			
HEAD LOSS (HEATING) : 50°C				kPa	34.5	42.0	48.8	53.3			
MAX. WORKING PRESSURE				kPa	32.9	27.4	31.5	63.2			
SURFACE AIR VELOCITY				m/s	2.19	2.80	1.96	2.15			
SOUND PRESSURE LEVEL				dBA	50 / 46 / 42	54 / 52 / 50	58	58			
UNIT DIMENSION		H X W X D		mm	572 x 1402 x 605		885 x 1540 x 850				
PACKING DIMENSION		H X W X D		mm	762 x 1605 x 880		1154 x 1787 x 1188				
UNIT WEIGHT				kg	92	102	176	189			
CONDENSATE DRAIN SIZE				mm	19.05						
PIPE CONNECTION				mm	28.58						
FAN				TYPE							
				DRIVE							
FAN SPEED				DIRECT							
				BLOWER							
				BELT							
HIGH		RPM	835	950	707	707					
MEDIUM		RPM	720	885	N/A	N/A					
LOW		RPM	615	805	N/A	N/A					
HIGH		%	43.30	31.60	N/A	N/A					
MEDIUM		%	43.20	35.00	N/A	N/A					
LOW		%	45.40	38.20	N/A	N/A					
FAN MOTOR				INDUCTION							
				INDEX OF PROTECTION (IP)							
				IP22							
				INSULATION GRADE							
				B							
				RATED INPUT POWER		HIGH	W	760	1800	1620	1910
						MEDIUM	W	611	1620	N/A	N/A
						LOW	W	478	1320	N/A	N/A
				RATED RUNNING CURRENT		HIGH	A	3.49	7.84	3.33	4.03
						MEDIUM	A	2.86	7.06	N/A	N/A
		LOW	A	2.32	5.82	N/A	N/A				
STARTING CURRENT				A	5.20	10.30	24.00	29.00			
MOTOR OUTPUT				W	375	500	1500	2200			
MOTOR EFFICIENCY		HIGH	%	58.30	41.00	N/A	N/A				
		MEDIUM	%	42.50	36.60	N/A	N/A				
		LOW	%	31.30	31.30	N/A	N/A				
POLES				6	4	4	4				
COIL				COPPER							
				9.53							
				ALUMINIUM							
				FACE AREA		m <sup>2</sup>	0.54	0.54	1.01	1.01	
ROW			3	4	3	4					
WATER VOLUME				litre	4.53	6.27	8.14	11.63			
AIR QUALITY FILTER				WASHABLE SARANET FILTER							
TYPE						AAF R29					
QUANTITY		pc		2	2	3	3				
CASING				COLOUR							
				IVORY							

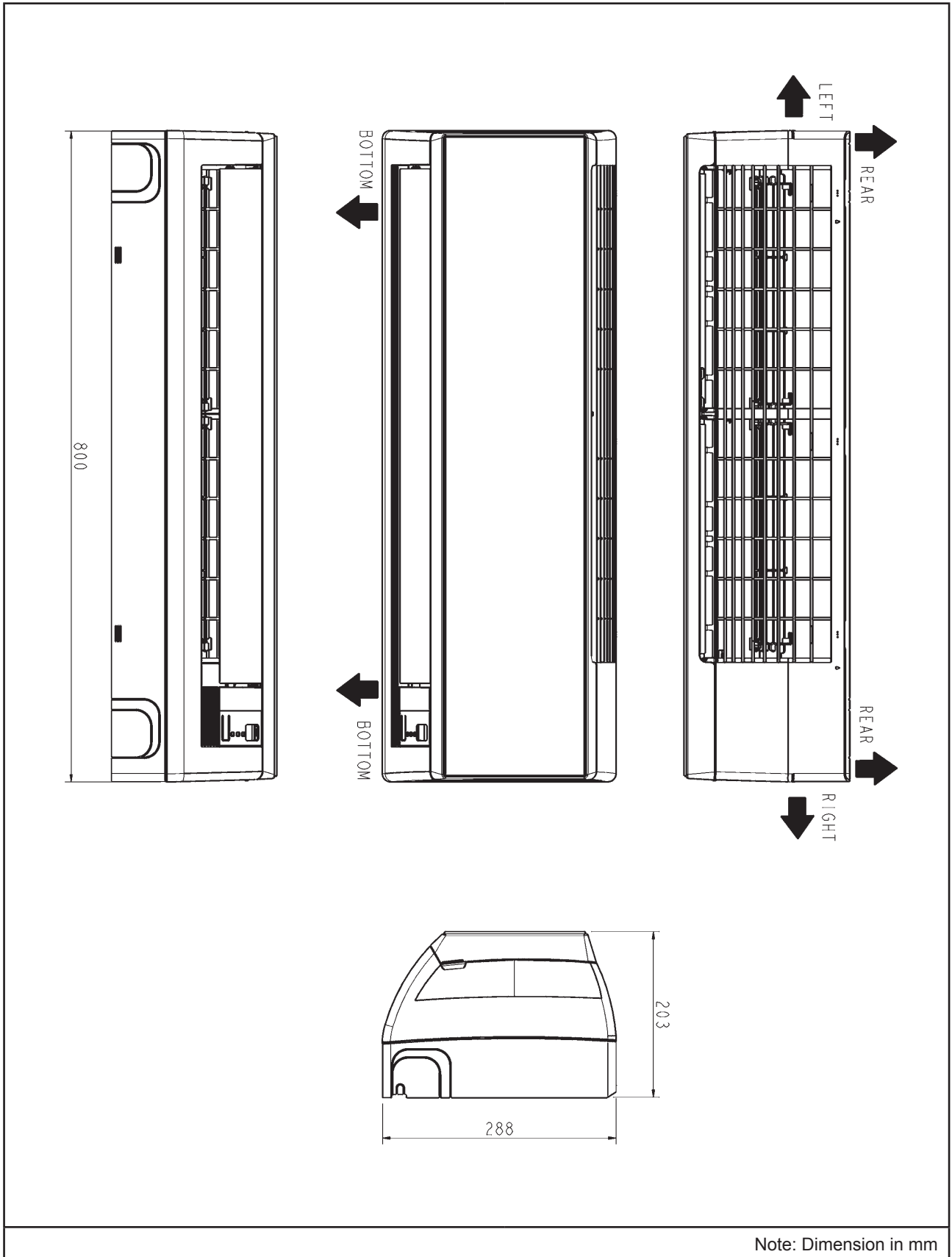
MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2 Pipes System) 70°C (4 Pipes System)
LEAVING WATER TEMPERATURE	12°C	60°C (4 Pipes System)

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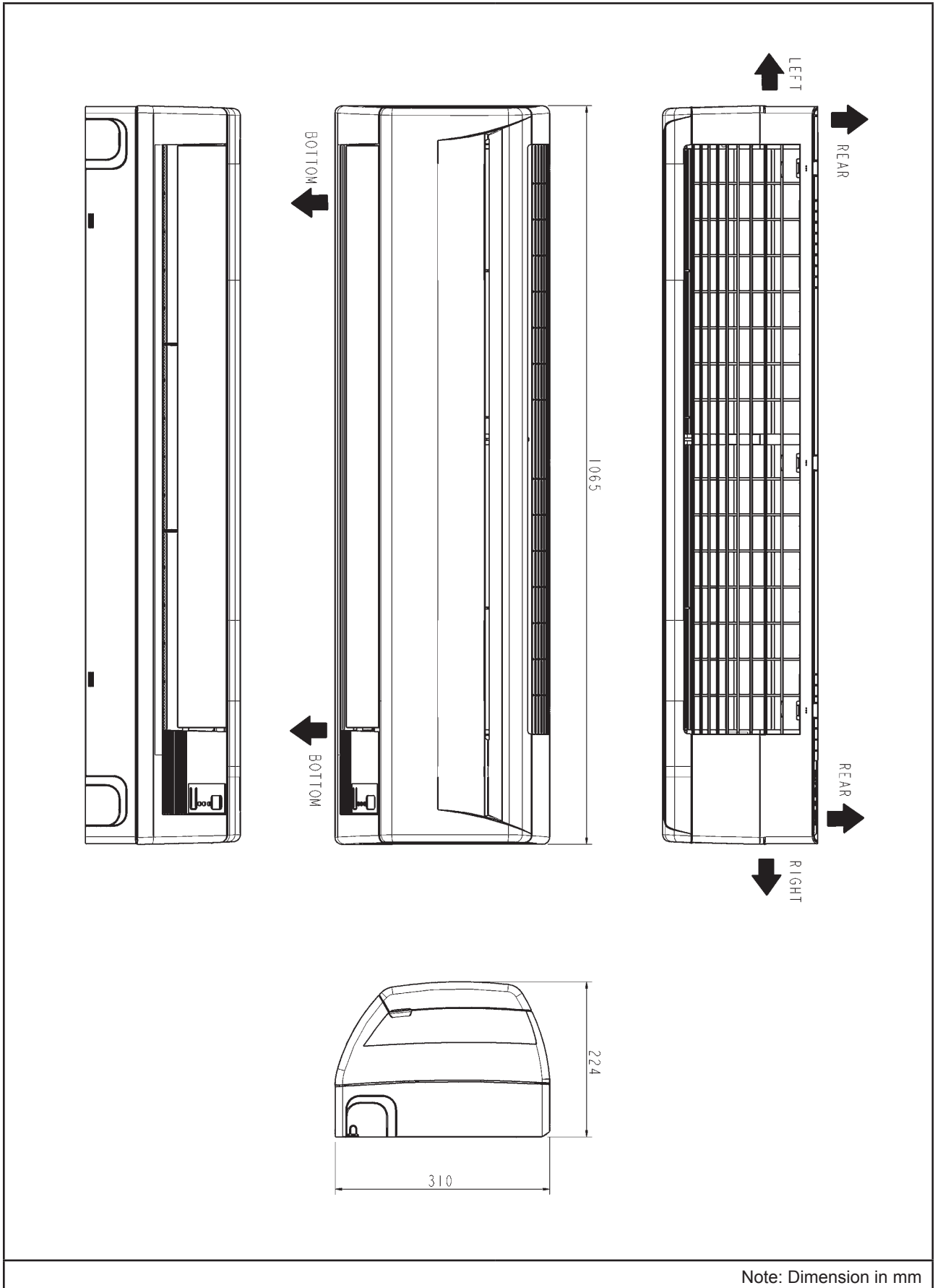
# OUTLINE & DIMENSIONS

Indoor Unit

Model: AWM07/10/15LW

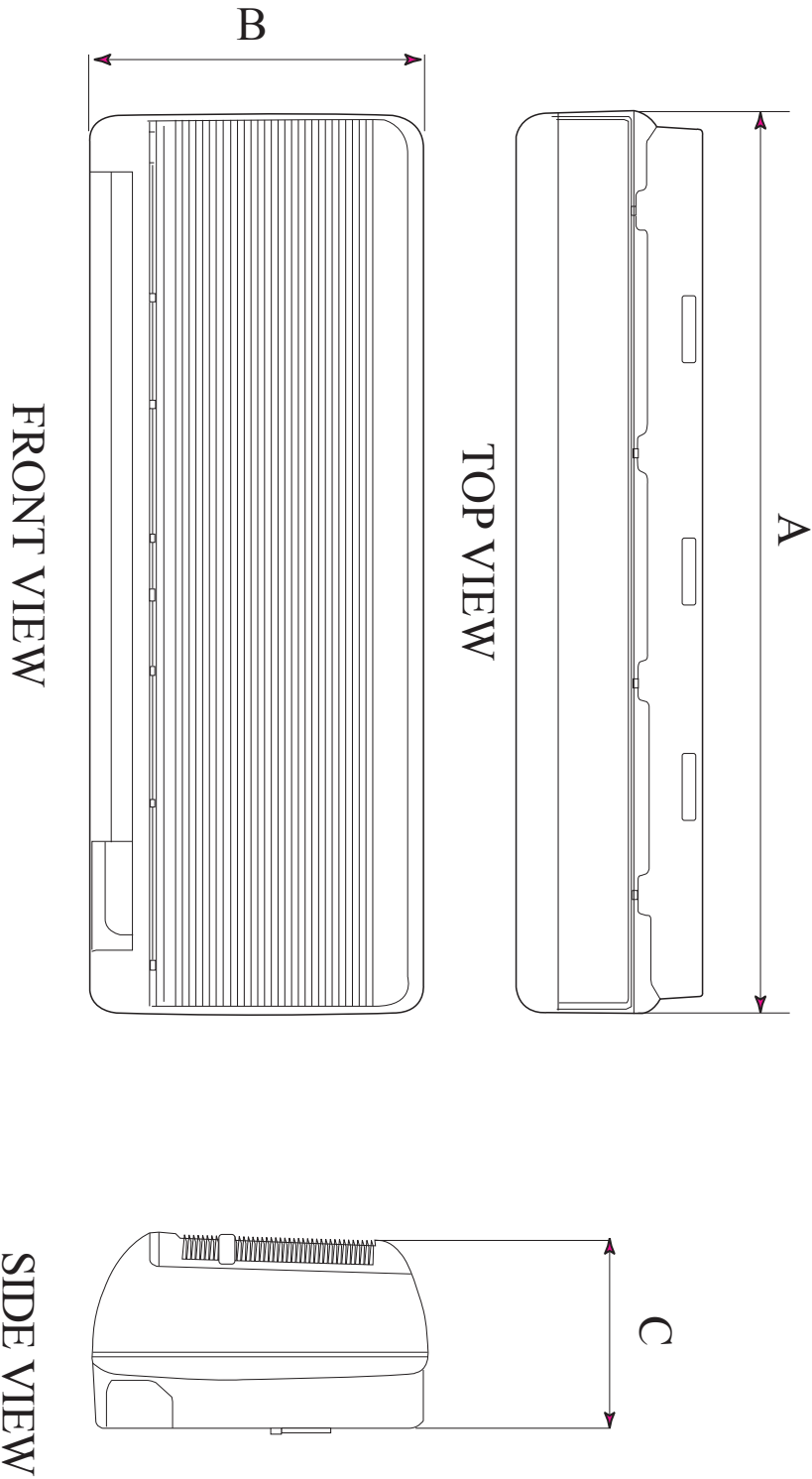


Model: AWM20/25LW



Note: Dimension in mm

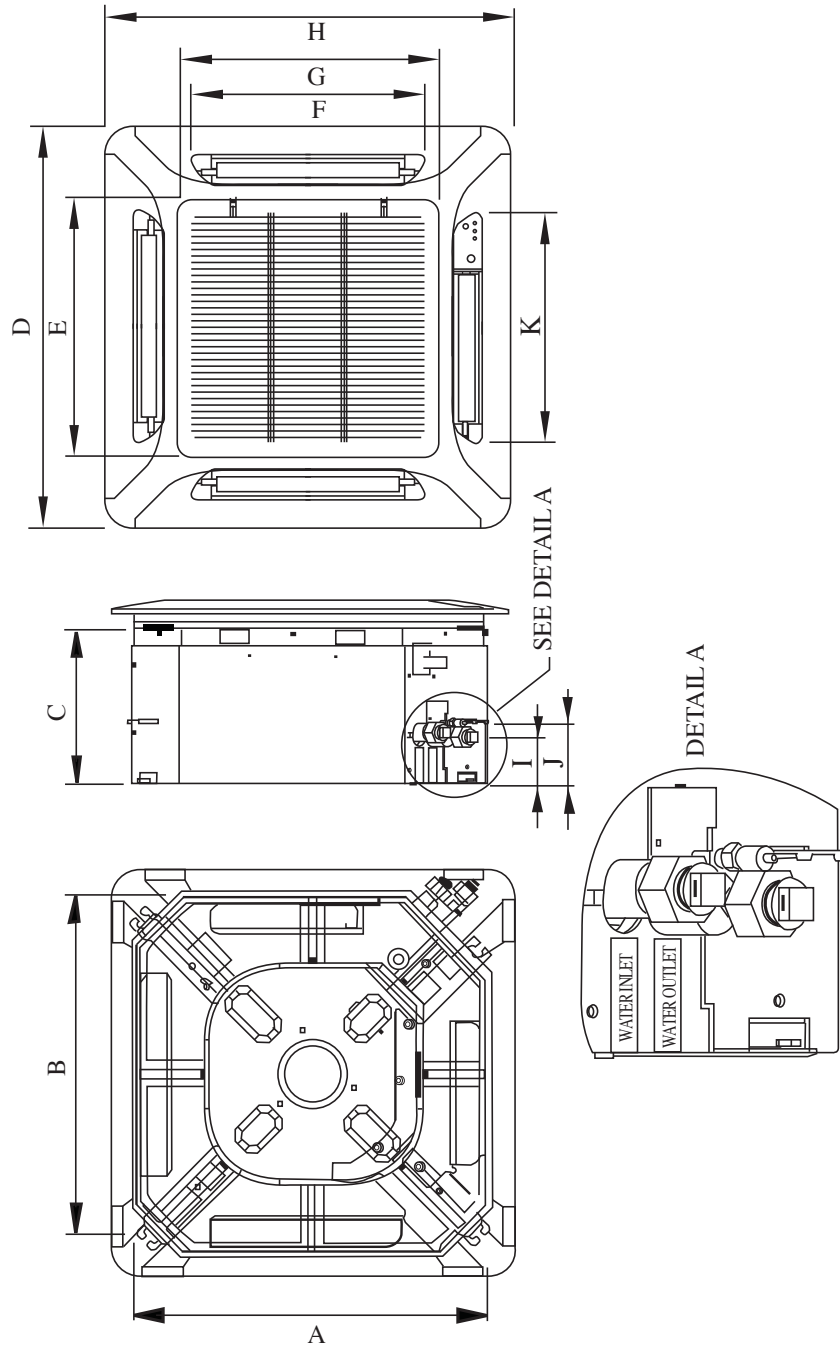
Model: AWM301W



Dimension	A	B	C
Model AWM301W	1120	360	200

Note: Dimension in mm

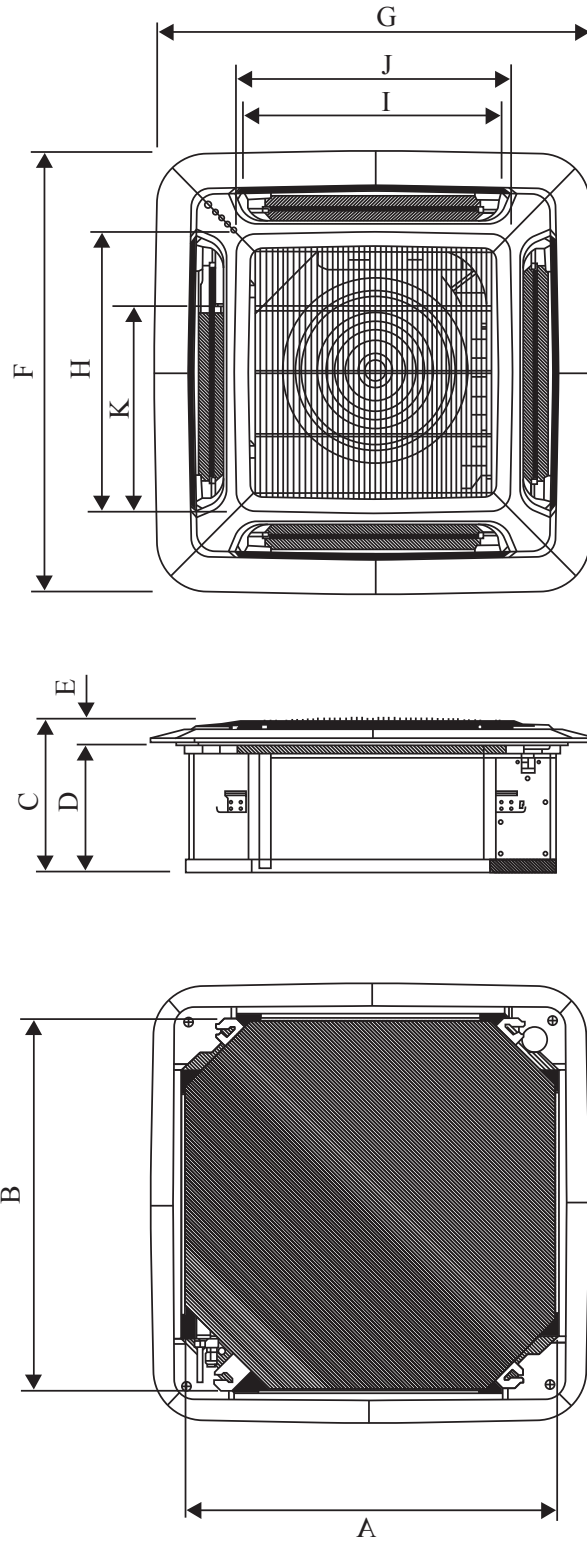
**Model: ACK10/15/20CW**



Dimension	A	B	C	D	E	F	G	H	I	J	K
Model											
ACK10/15/20CW	570	570	250	640	408	364	408	640	75	98	364

Note: Dimension in mm

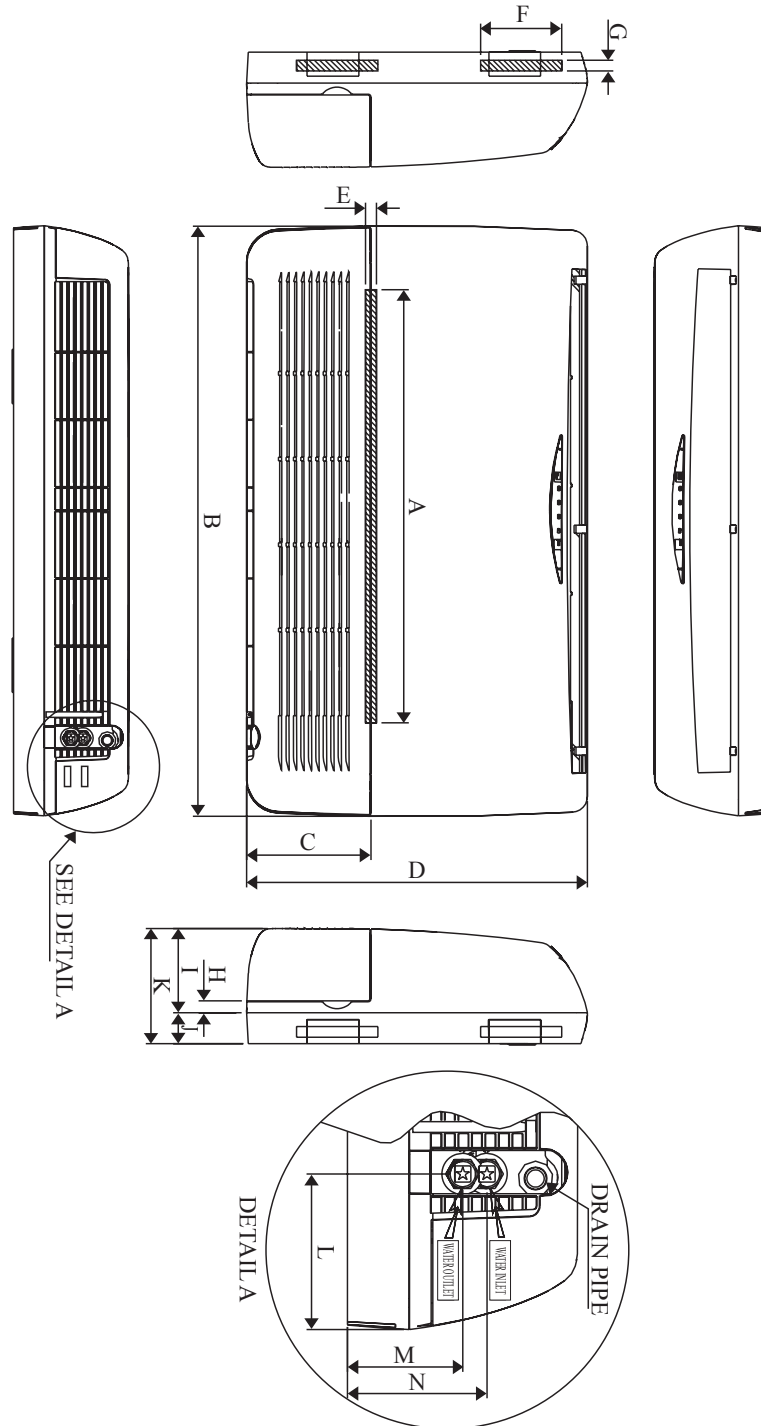
Model: ACK20/25/30/40/50EW



Dimension	A	B	C	D	E	F	G	H	I	J	K
Model ACK20/25/30/ 40/50EW	570	570	250	640	408	364	408	640	75	98	364

Note: Dimension in mm

Model: ACM15/20/25EW

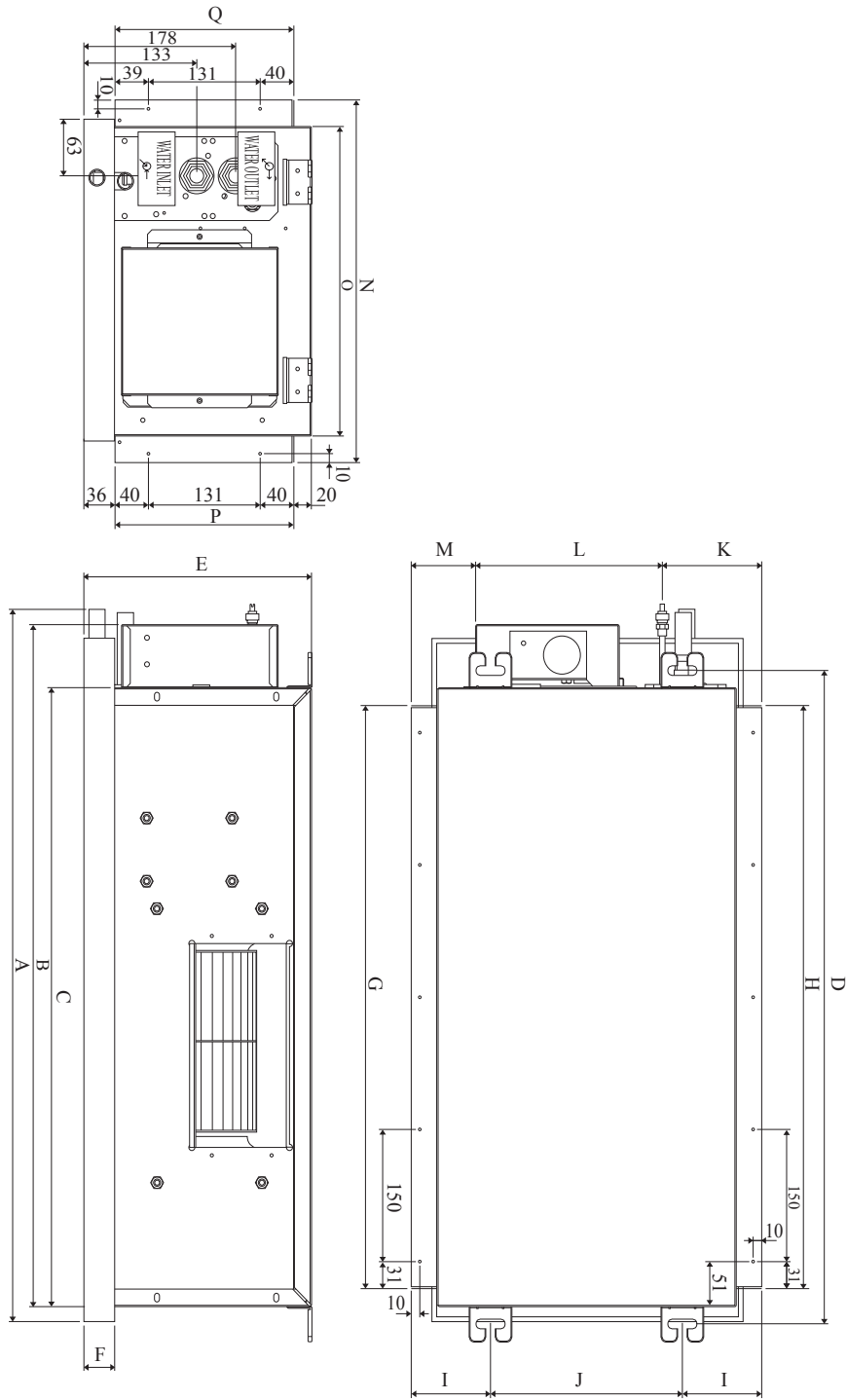


Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Model														
ACM15/20/25EW	800	1090	230	630	20	150	20	21	156	57	213	144	107	129

Note: Dimension in mm



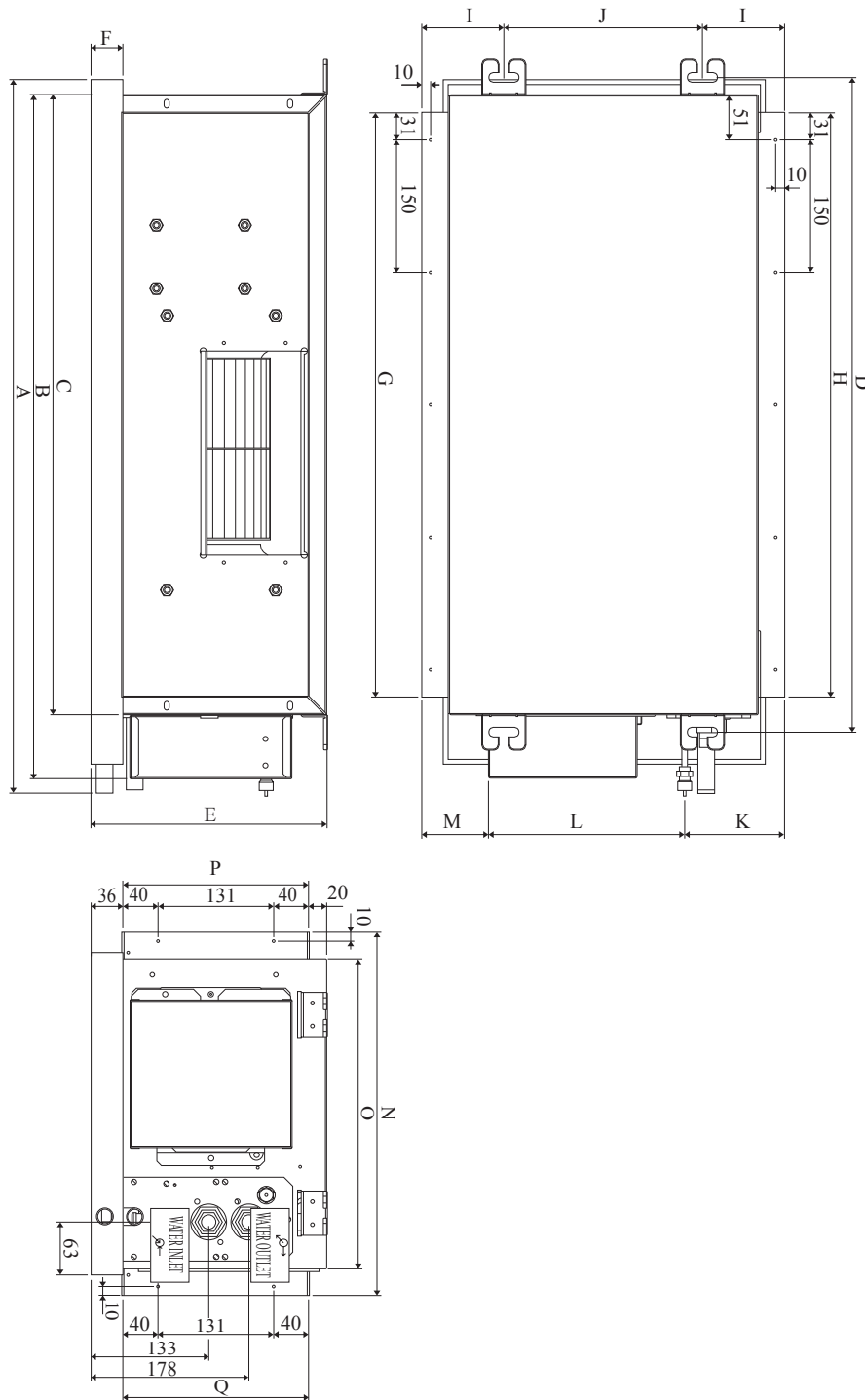
**Model: ACC10CW (Left Piping)**



Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Model <b>ACC10CW</b>	808	774	702	741	267	36	662	662	93	225	115	218	76	411	351	211	211

Note: Dimension in mm

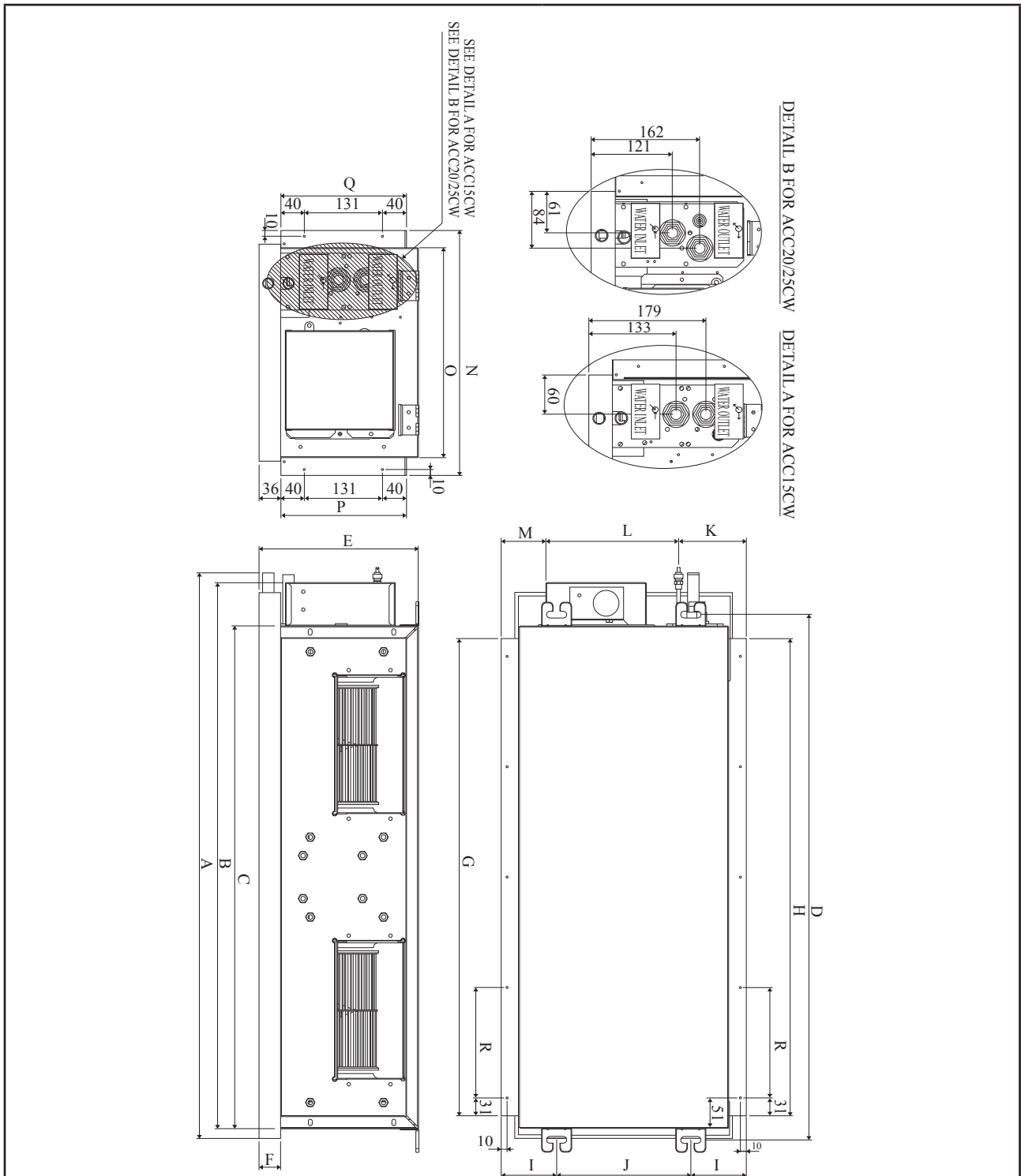
**Model: ACC10CW (Right Piping)**



Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
<b>Model</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>	<b>Q</b>
<b>ACC10CW</b>	808	774	702	741	267	36	662	662	93	225	115	218	76	411	351	211	211

Note: Dimension in mm

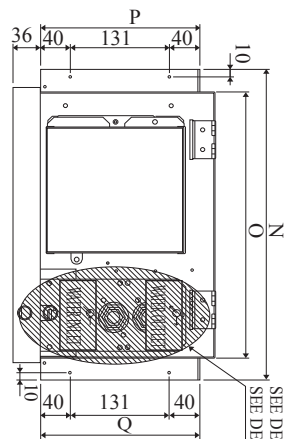
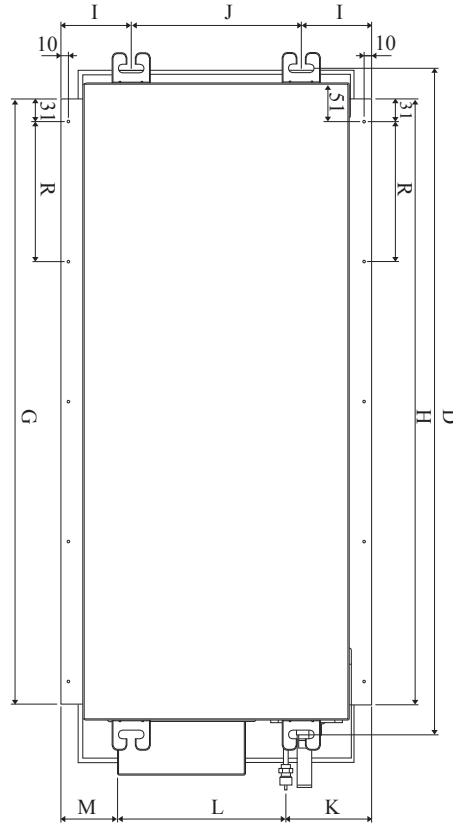
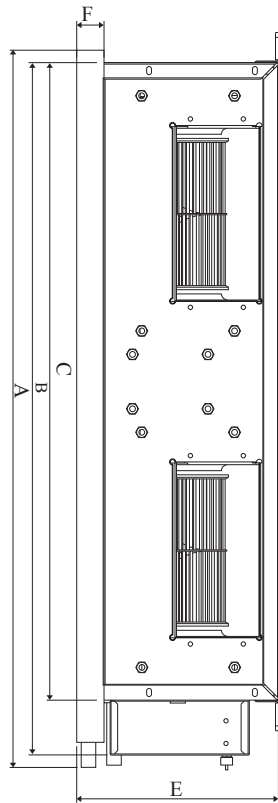
**Model: ACC15/20/25CW (Left Piping)**



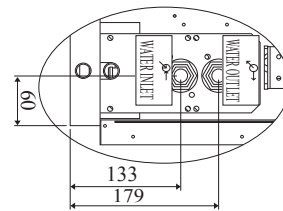
Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
<b>ACC15CW</b>	939	914	842	881	267	36	802	802	93	225	114	222	76	412	351	211	211	185
<b>ACC20CW</b>	1108	1075	1002	1041	267	36	962	962	93	225	64	272	76	412	351	211	211	179
<b>ACC25CW</b>	1243	1209	1137	1176	267	36	1097	1097	93	225	64	272	76	412	351	211	211	206

Note: Dimension in mm

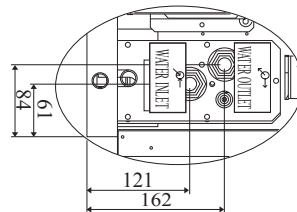
**Model: ACC15/20/25CW (Right Piping)**



SEE DETAIL A FOR ACC15CW  
SEE DETAIL B FOR ACC20/25CW



DETAIL A FOR ACC15CW

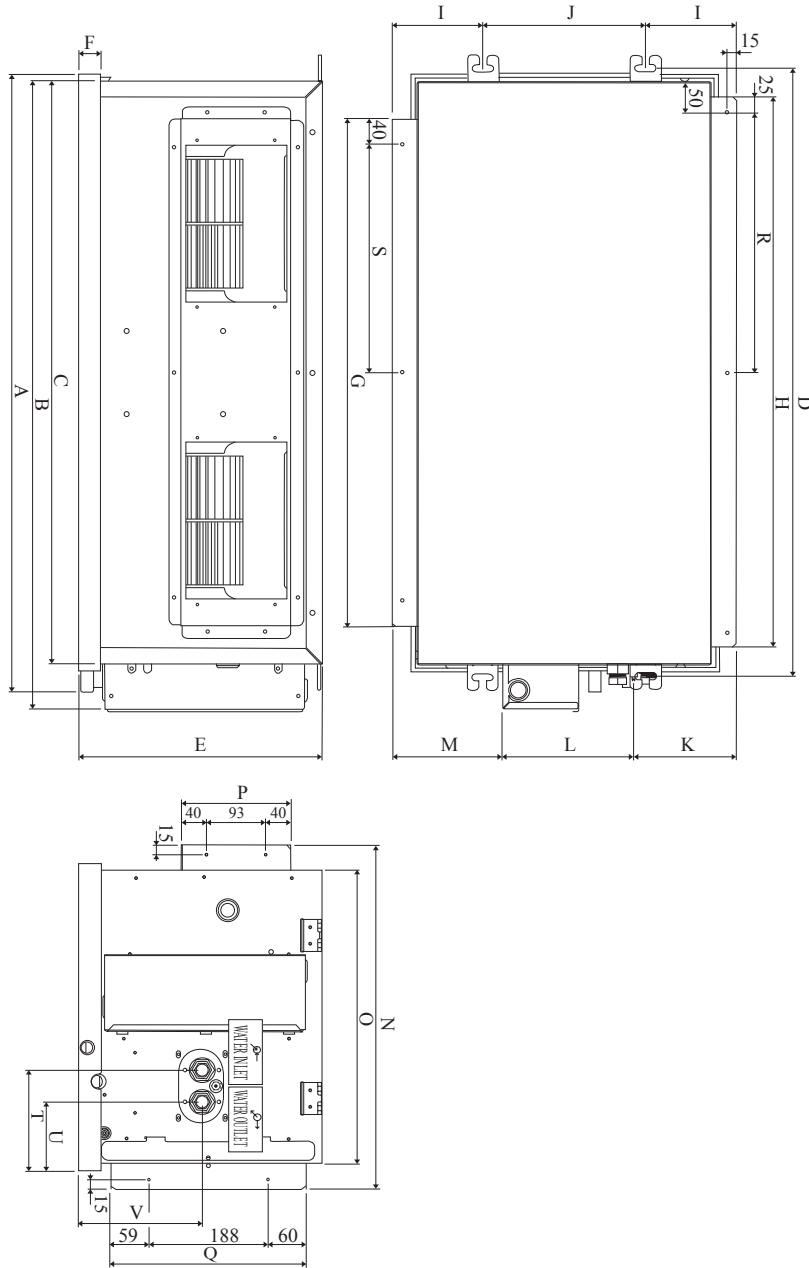


DETAIL B FOR ACC20/25CW

Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
<b>ACC15CW</b>	939	914	842	881	267	36	802	802	93	225	114	222	76	412	351	211	211	185
<b>ACC20CW</b>	1108	1075	1002	1041	267	36	962	962	93	225	64	272	76	412	351	211	211	179
<b>ACC25CW</b>	1243	1209	1137	1176	267	36	1097	1097	93	225	64	272	76	412	351	211	211	206

Note: Dimension in mm

**Model: ACC30/40/50/60CW (Right Piping)**



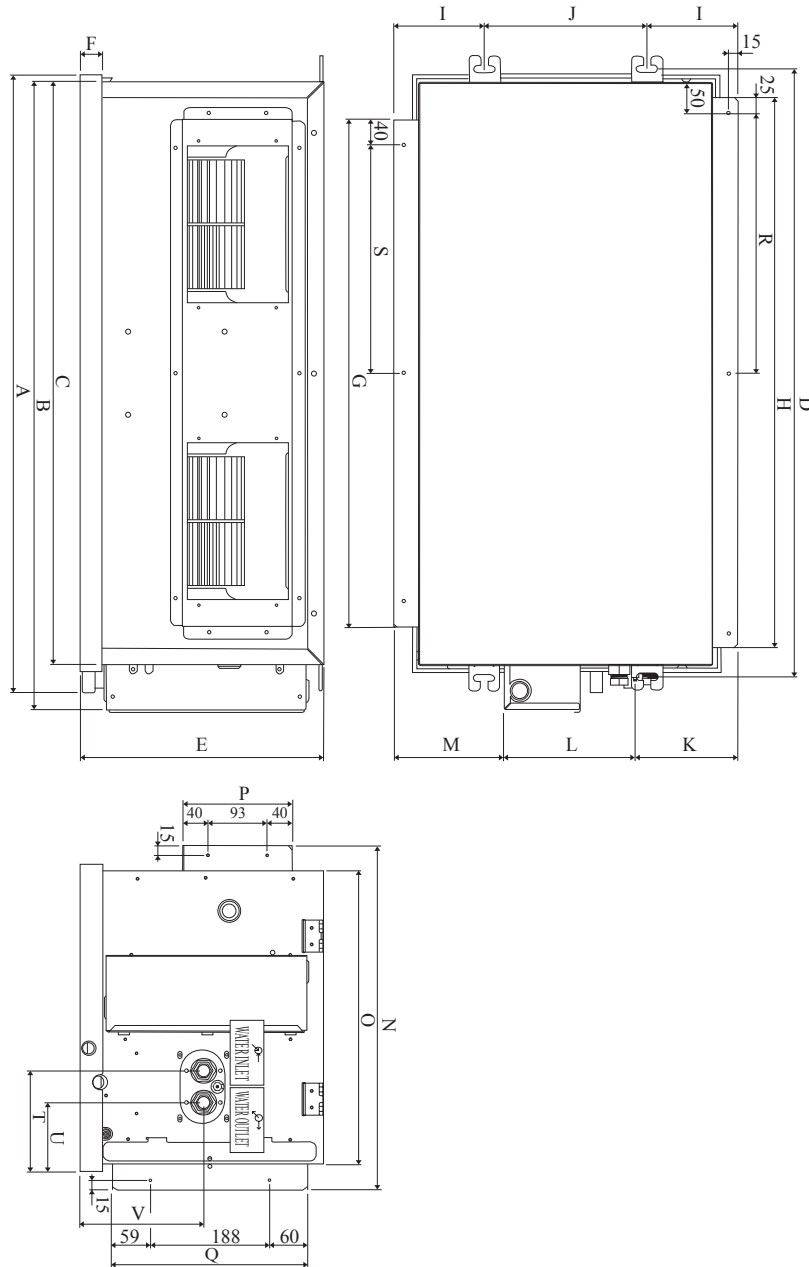
Dimension	A	B	C	D	E	F	G	H	I	J	K	L
<b>Model</b>												
<b>ACC30CW</b>	972	988	917	956	384	36	798	866	143	256	162	206
<b>ACC40CW</b>	1088	1105	1033	1072	384	36	798	982	143	256	162	206
<b>ACC50CW</b>	1342	1358	1287	1326	384	36	798	1236	143	256	159	209
<b>ACC60CW</b>	1542	1558	1487	1526	384	36	798	1436	143	256	159	199

Dimension	M	N	O	P	Q	R	S	T	U	V
<b>Model</b>										
<b>ACC30CW</b>	173	541	462	173	307	409	359	159	109	196
<b>ACC40CW</b>	173	541	462	173	307	467	359	159	109	196
<b>ACC50CW</b>	173	541	462	173	307	594	359	156	106	196
<b>ACC60CW</b>	183	541	462	173	307	694	359	154	104	196

Note: Dimension in mm

**Model: ACC30/40/50/60CW (Right Piping)**

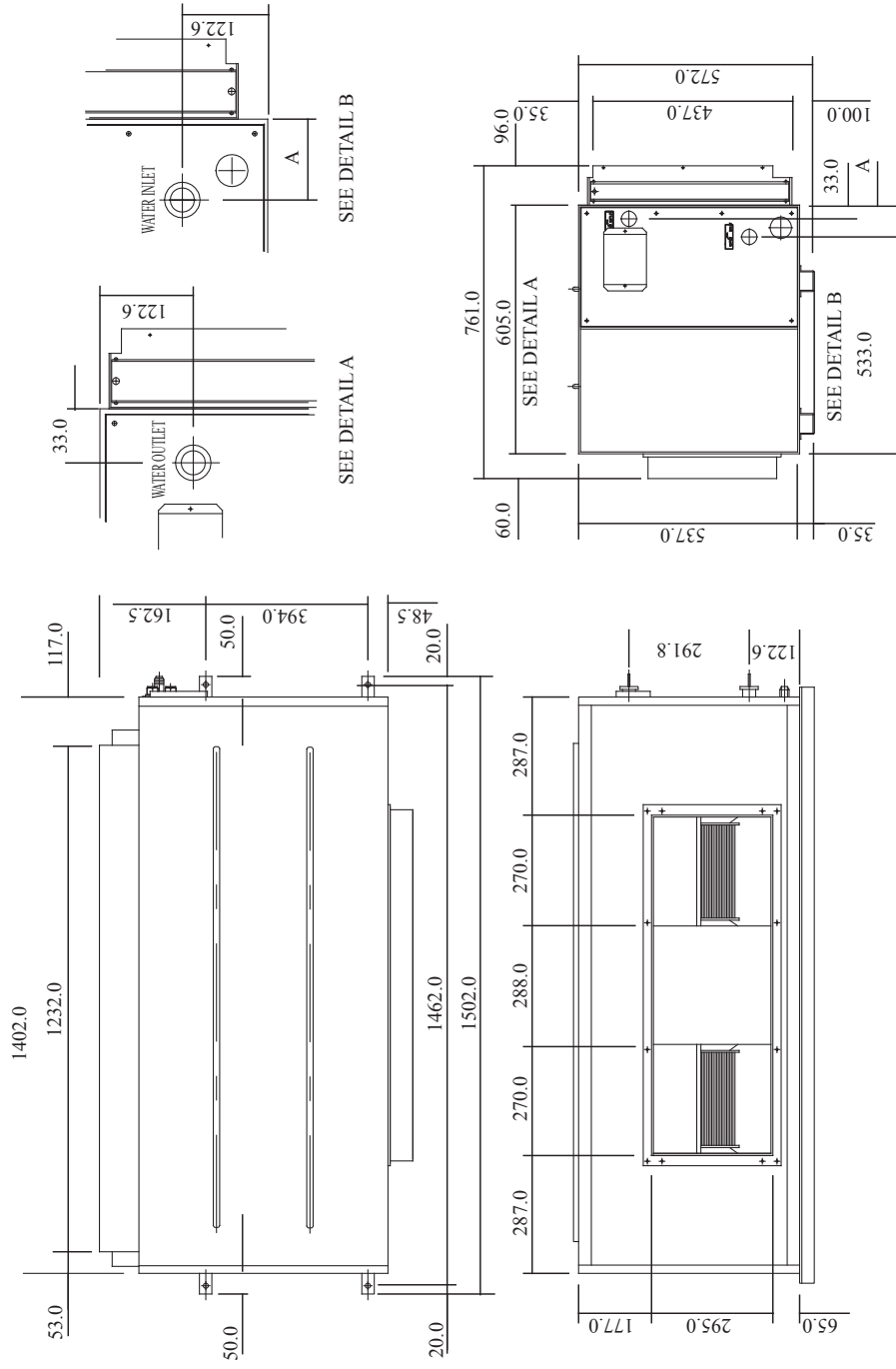


Dimension	A	B	C	D	E	F	G	H	I	J	K	L
<b>Model</b>												
<b>ACC30CW</b>	972	988	917	956	384	36	798	866	143	256	162	206
<b>ACC40CW</b>	1088	1105	1033	1072	384	36	798	982	143	256	162	206
<b>ACC50CW</b>	1342	1358	1287	1326	384	36	798	1236	143	256	159	209
<b>ACC60CW</b>	1542	1558	1487	1526	384	36	798	1436	143	256	159	199

Dimension	M	N	O	P	Q	R	S	T	U	V
<b>Model</b>										
<b>ACC30CW</b>	173	541	462	173	307	409	359	159	109	196
<b>ACC40CW</b>	173	541	462	173	307	467	359	159	109	196
<b>ACC50CW</b>	173	541	462	173	307	594	359	156	106	196
<b>ACC60CW</b>	183	541	462	173	307	694	359	154	104	196

Note: Dimension in mm

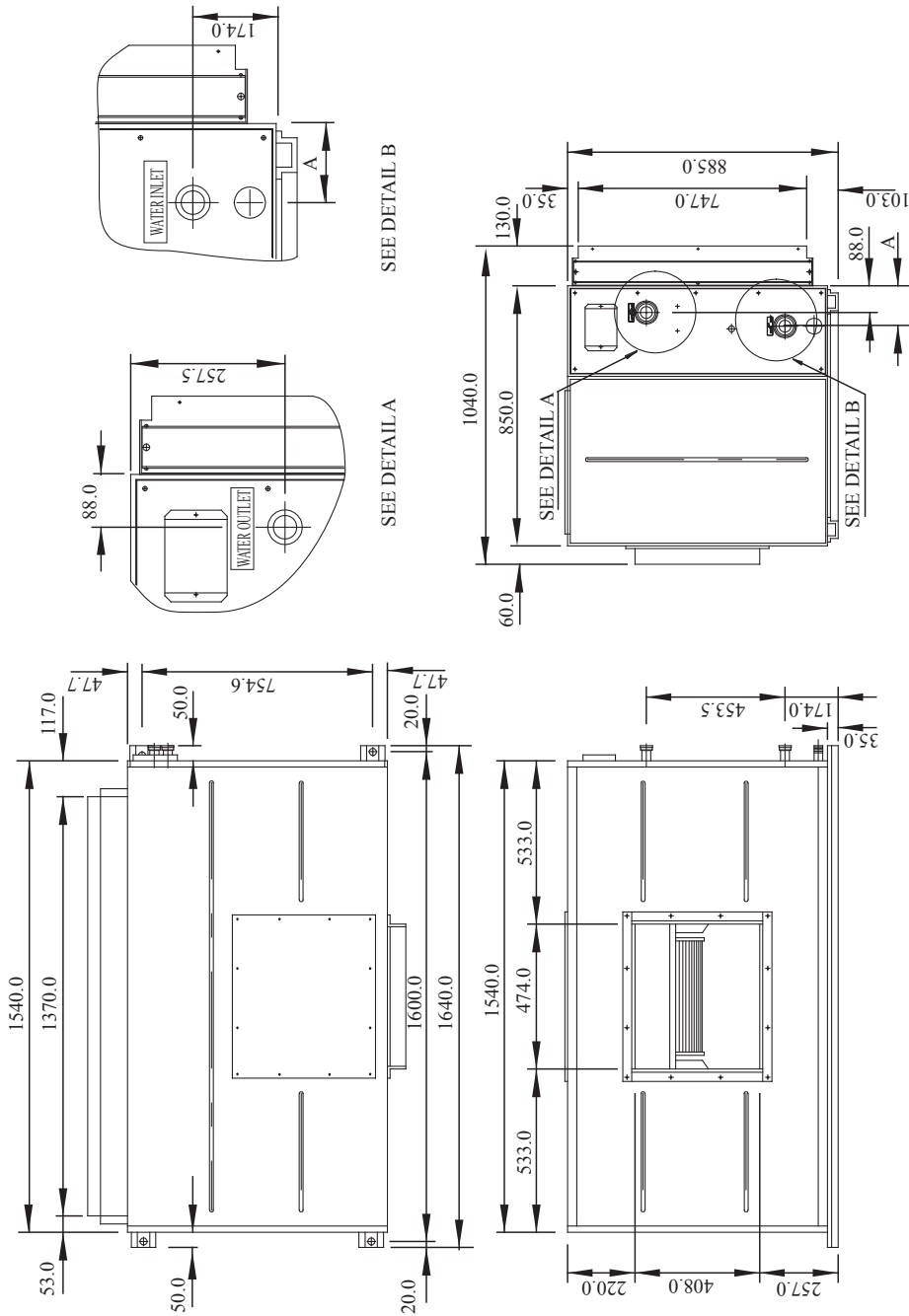
**Model: ADB75/100BW**



MODEL	A
ADB75BW	72.0
ADB100BW	94.0

Note: Dimension in mm

**Model: ADB125/150BW (Horizontal Air Discharge)**

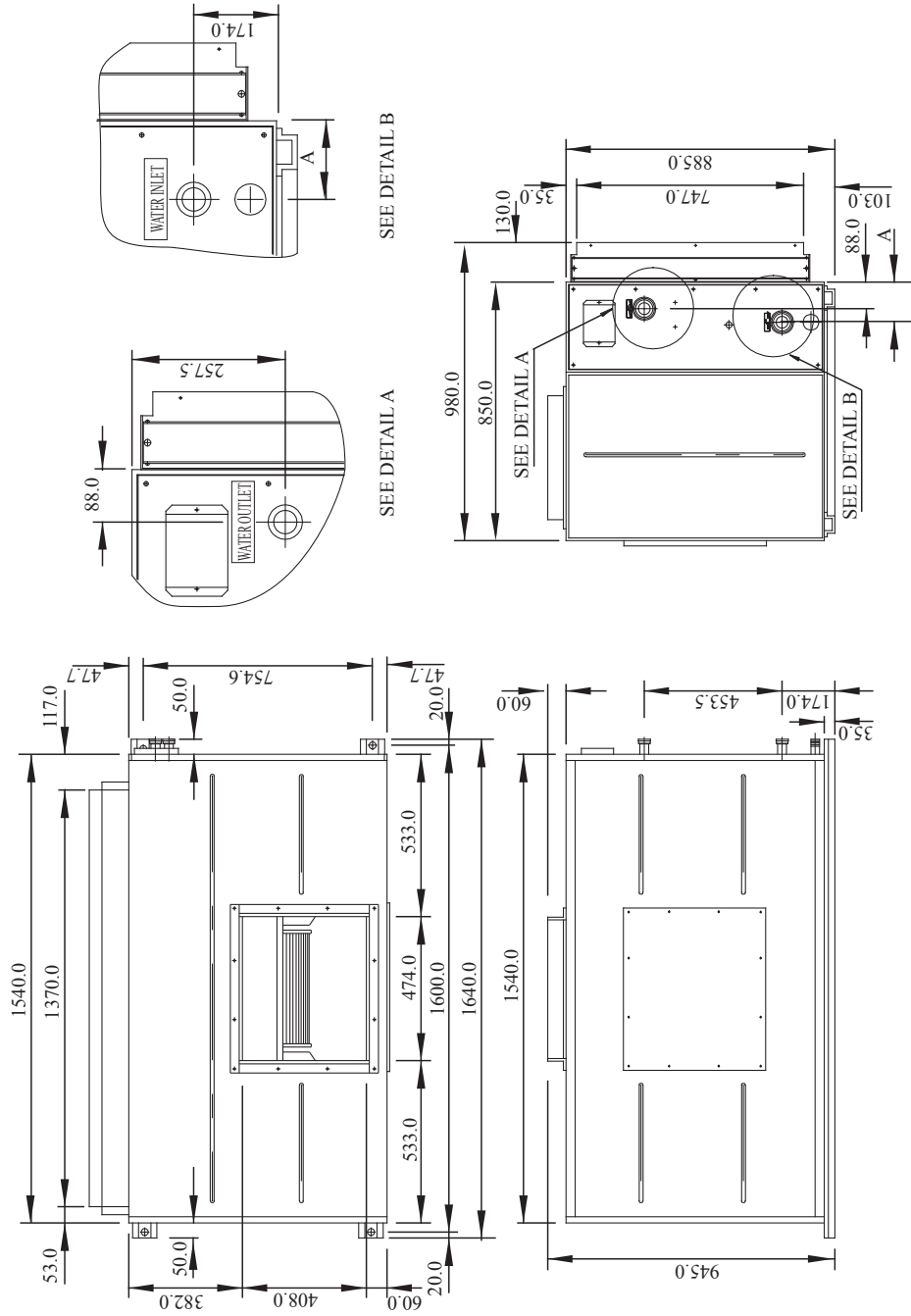


MODEL	A
ADB125BW	132.0
ADB150BW	155.0

Note: Dimension in mm



**Model: ADB125/150BW (Vertical Air Discharge)**

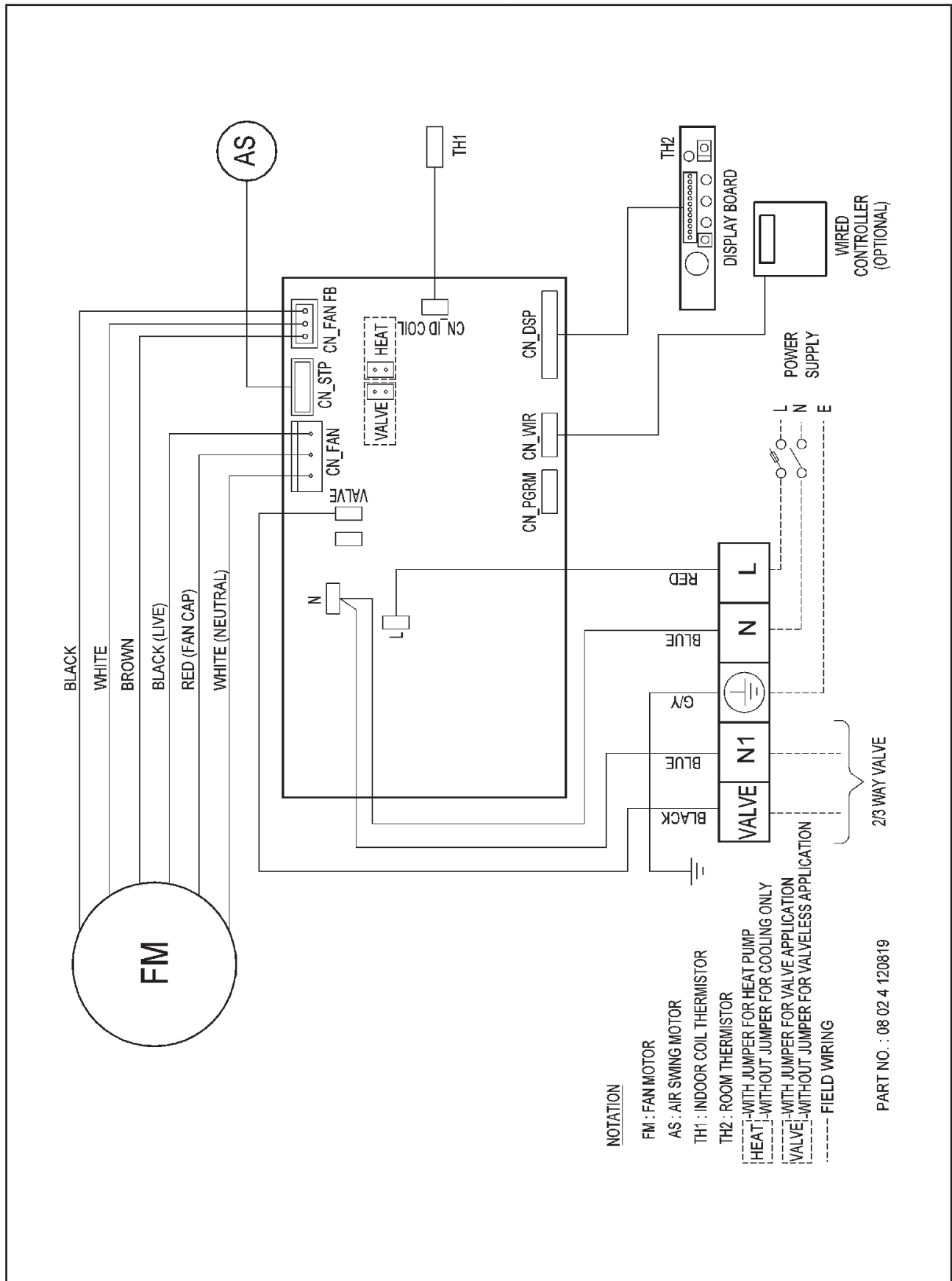


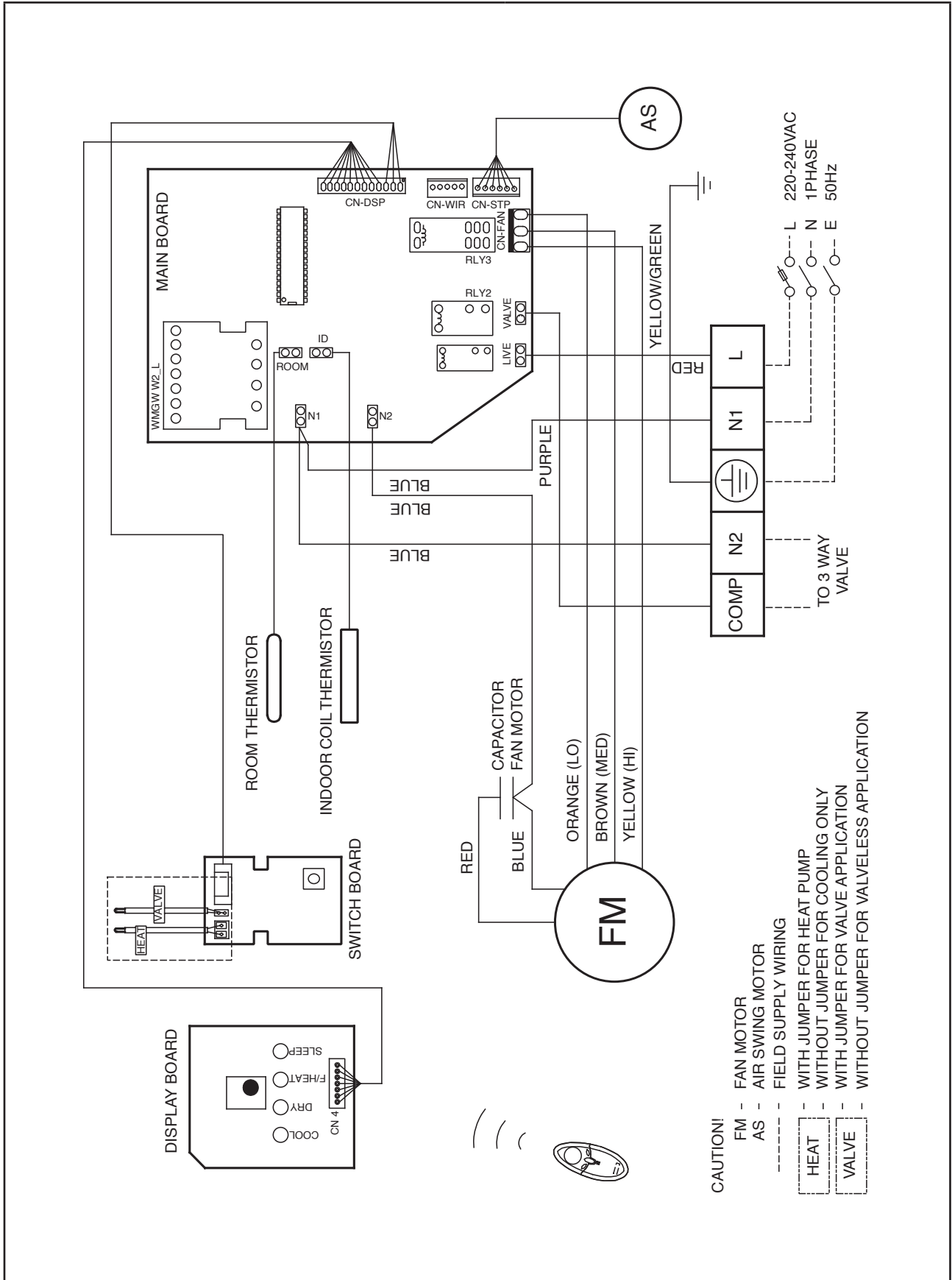
MODEL	A
ADB125BW	132.0
ADB150BW	155.0

Note: Dimension in mm

# WIRING DIAGRAMS

Model: AWM07/10/15/20/25LW

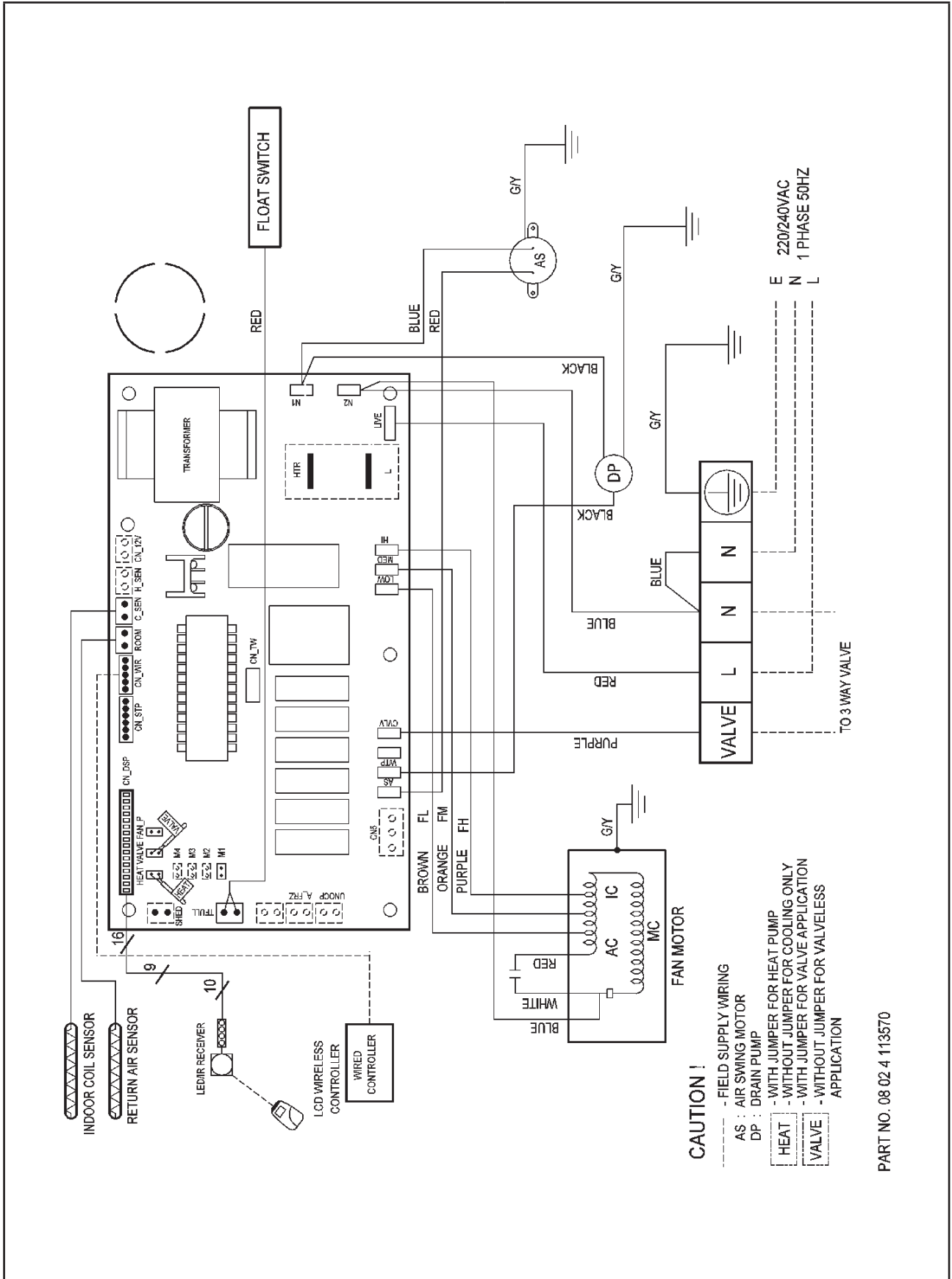




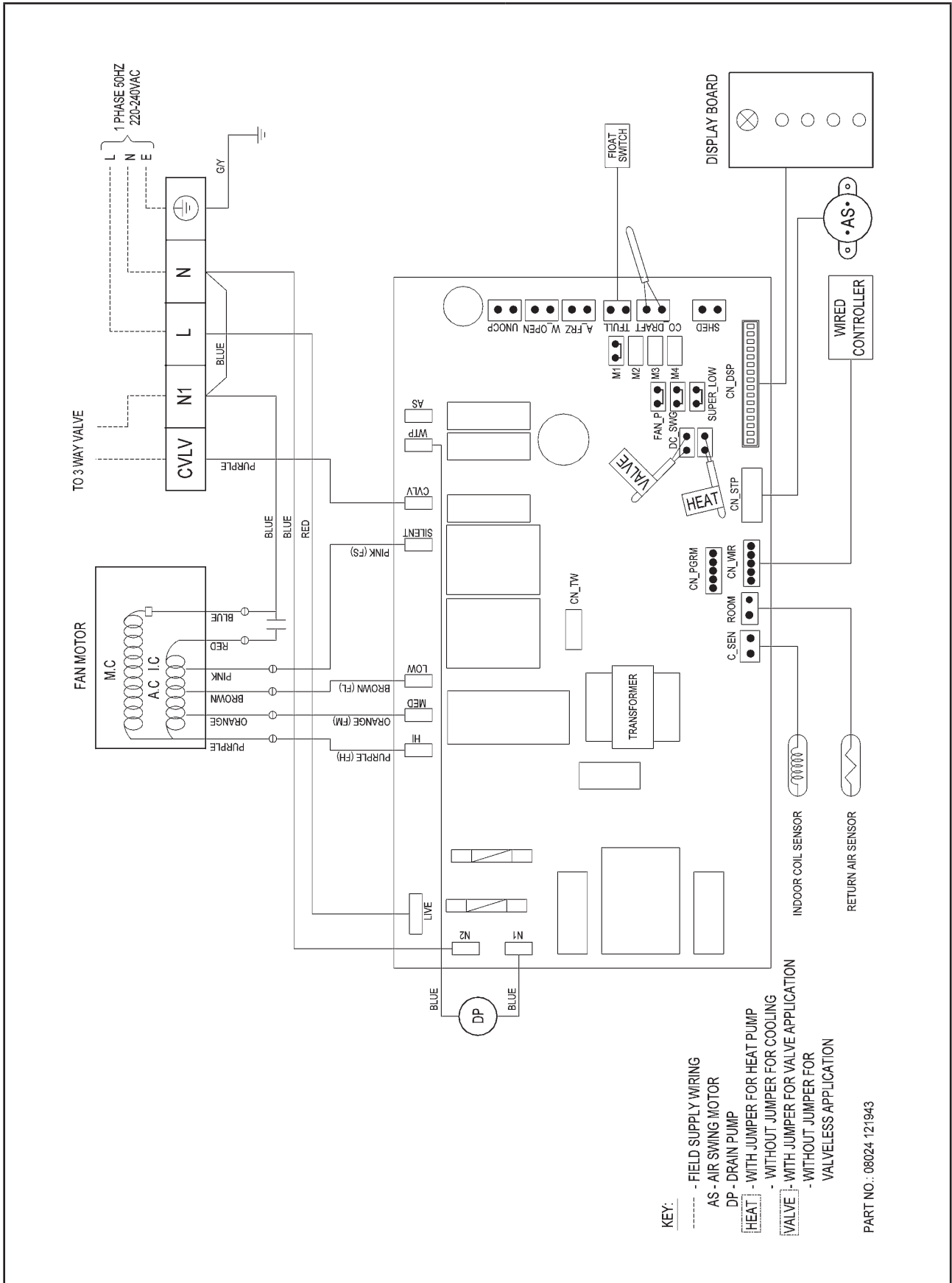
**CAUTION!**

- FM - FAN MOTOR
- AS - AIR SWING MOTOR
- - - FIELD SUPPLY WIRING
- HEAT - WITH JUMPER FOR HEAT PUMP
- HEAT - WITHOUT JUMPER FOR COOLING ONLY
- VALVE - WITH JUMPER FOR VALVE APPLICATION
- VALVE - WITHOUT JUMPER FOR VALVELESS APPLICATION

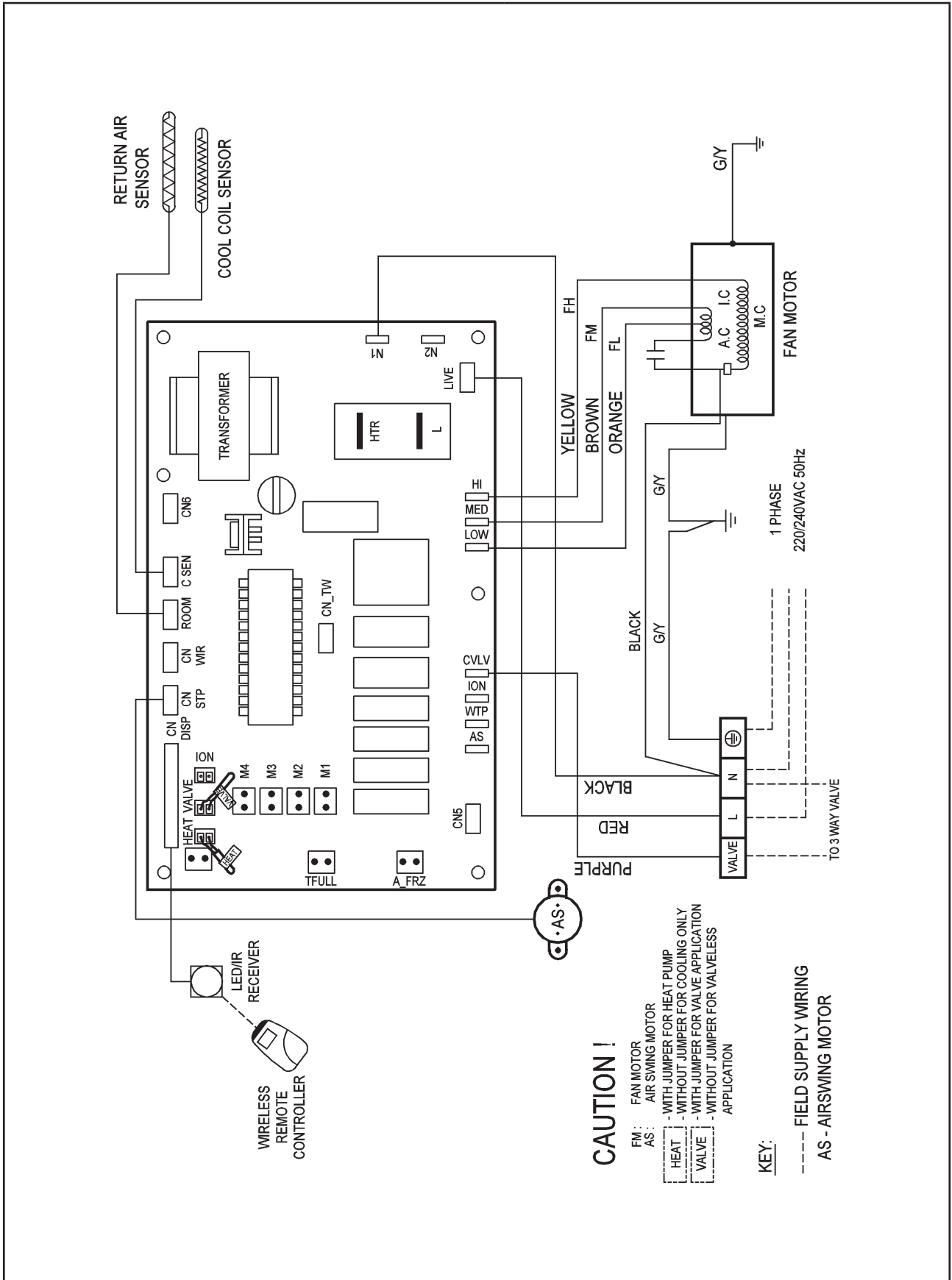
Model: ACK10/15/20CW



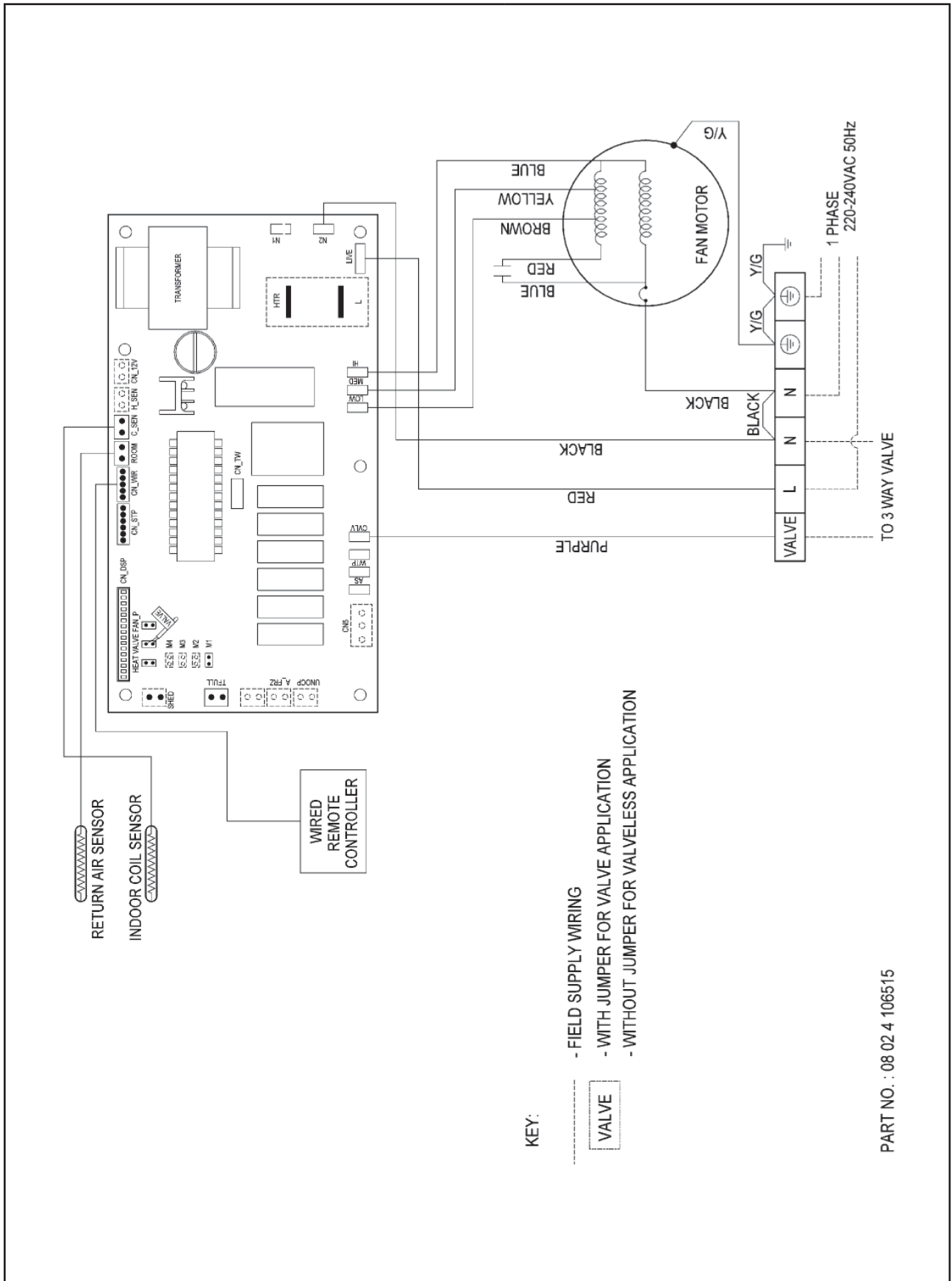
Model: ACK20/25/30/40/50E



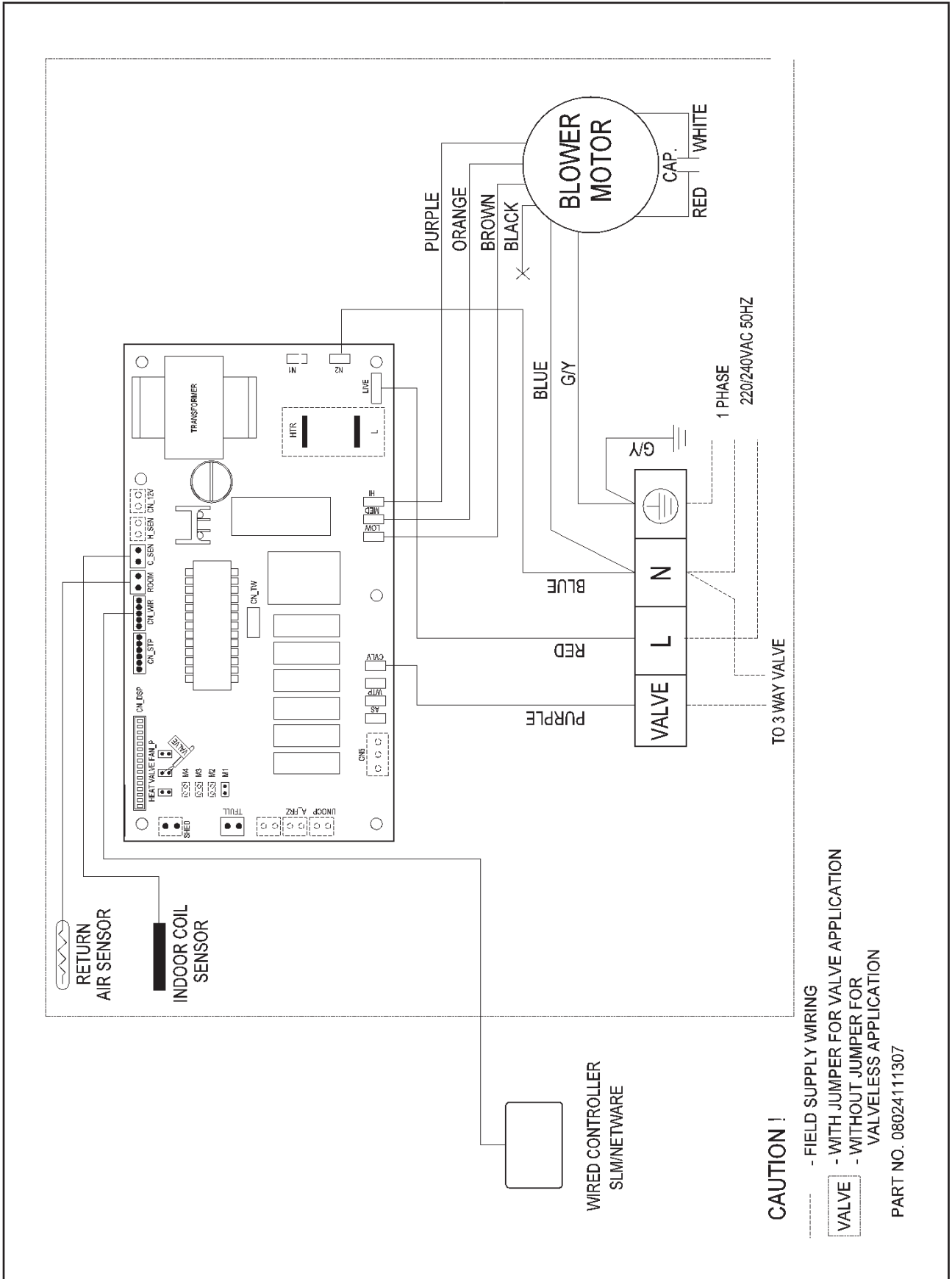
Model: ACM15/20/25EW



Model: ACC10/15/20/25CW (With Controller)

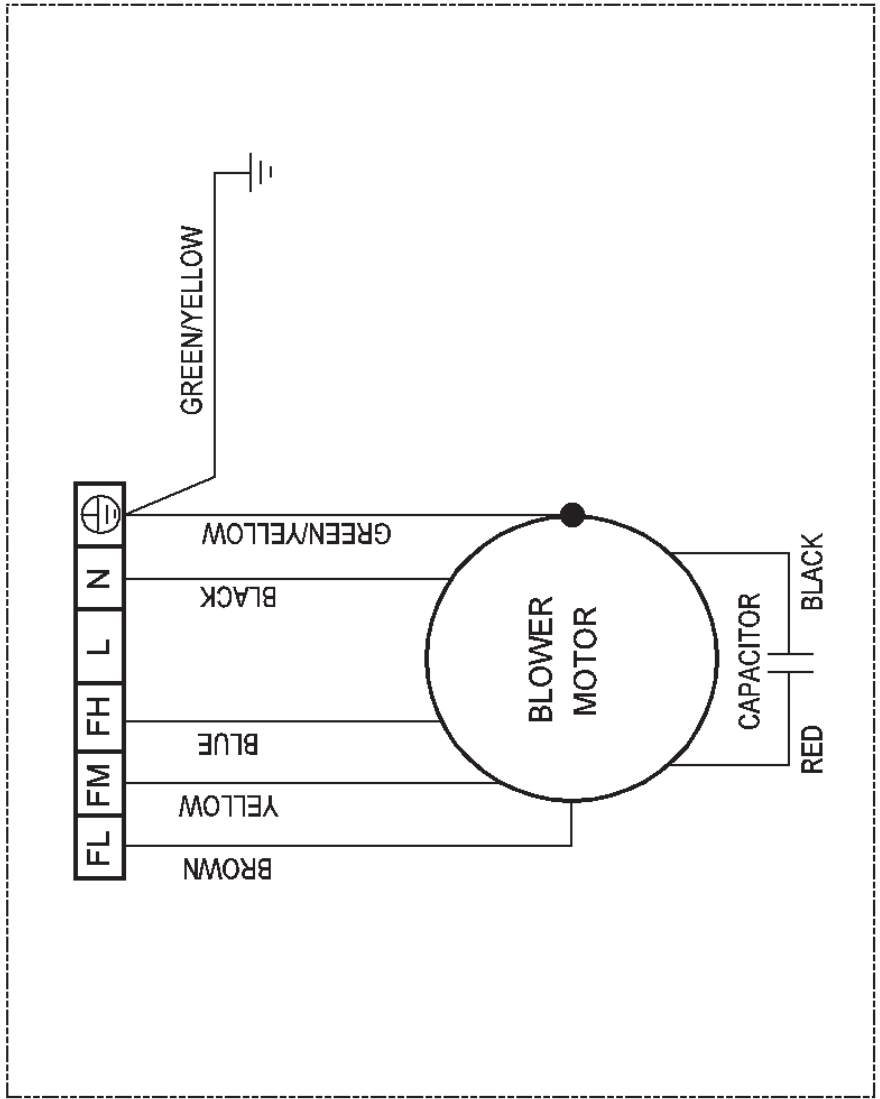


**Model: ACC30/40/50/60CW (With Controller)**





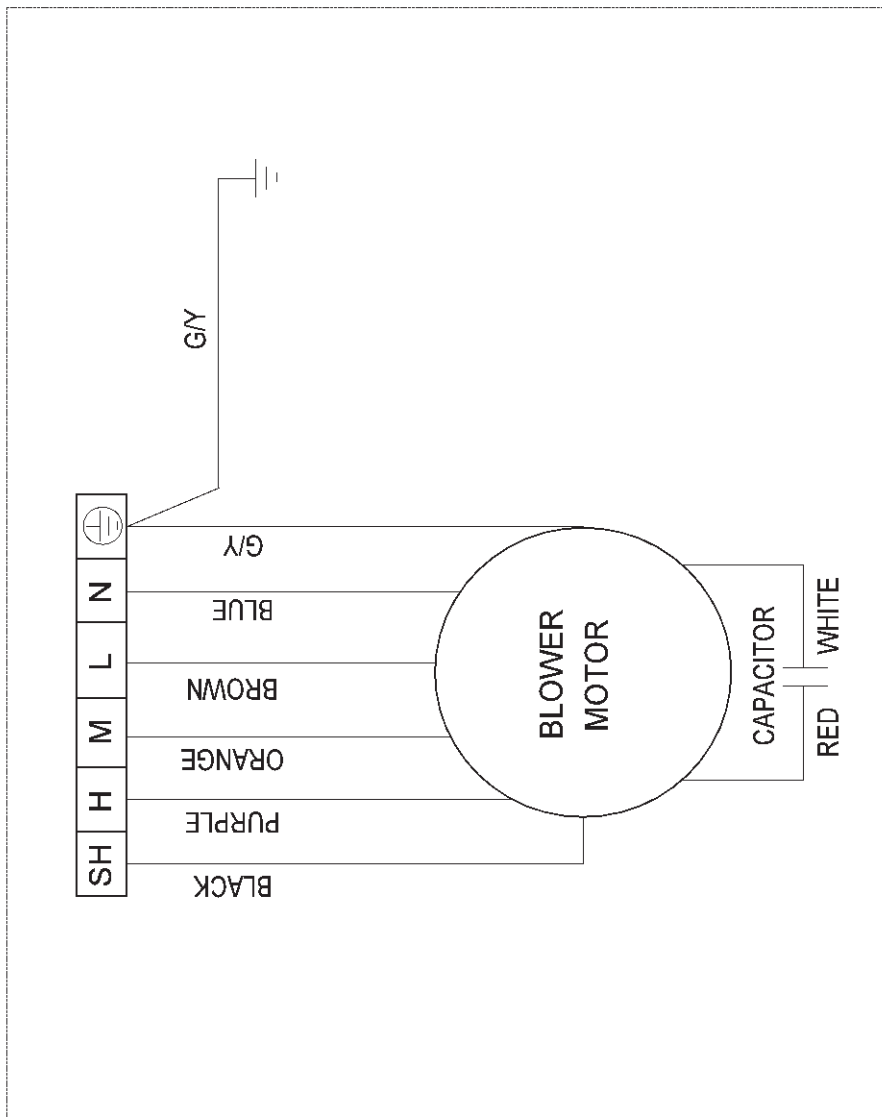
Model: ACC10/15/20/25CW (Without Controller)



INDOOR UNIT

PART NO. 08 02 4 109463

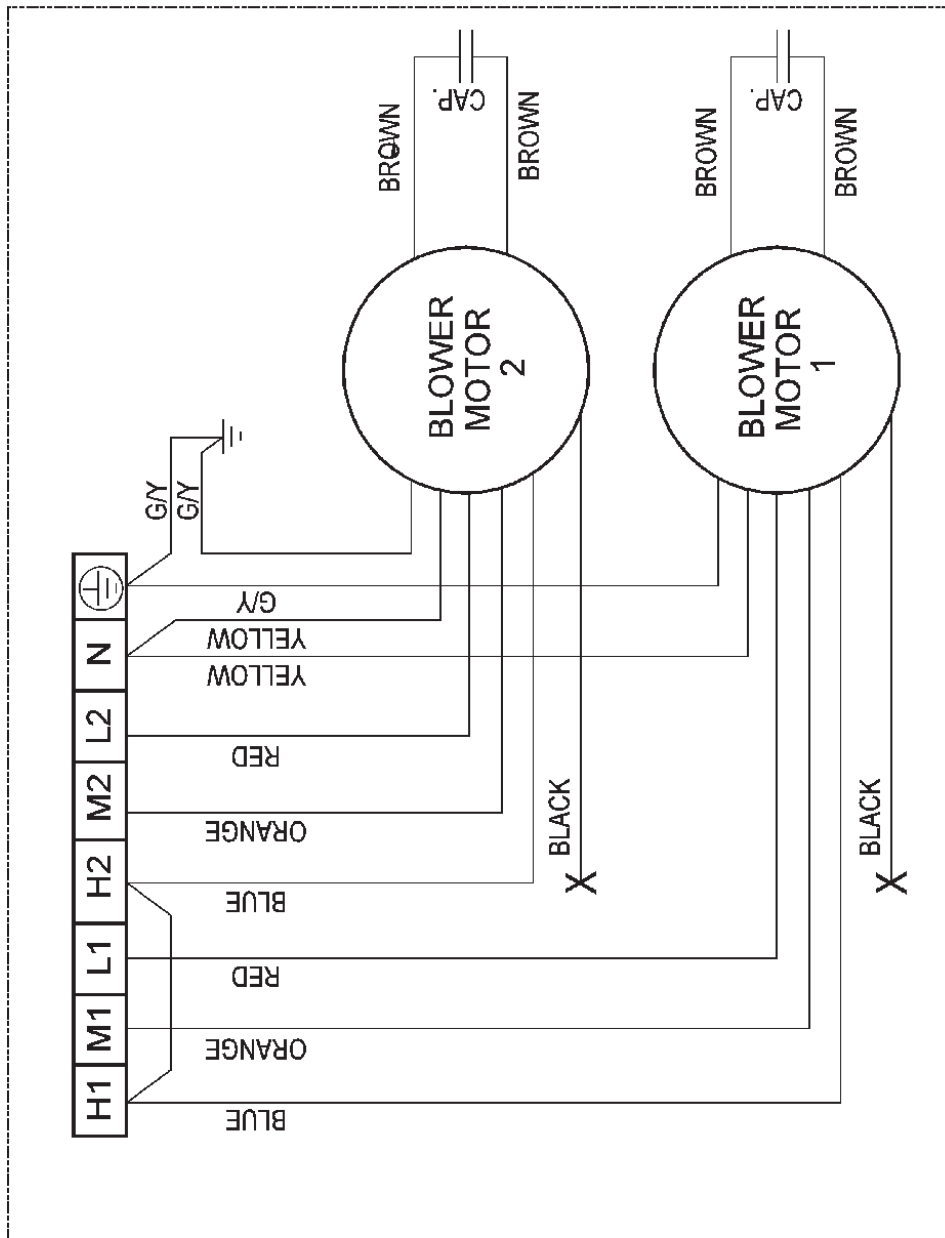
Model: ACC30/40/50/60CW (Without Controller)



INDOOR UNIT

PART NO. 08 02 4 111334

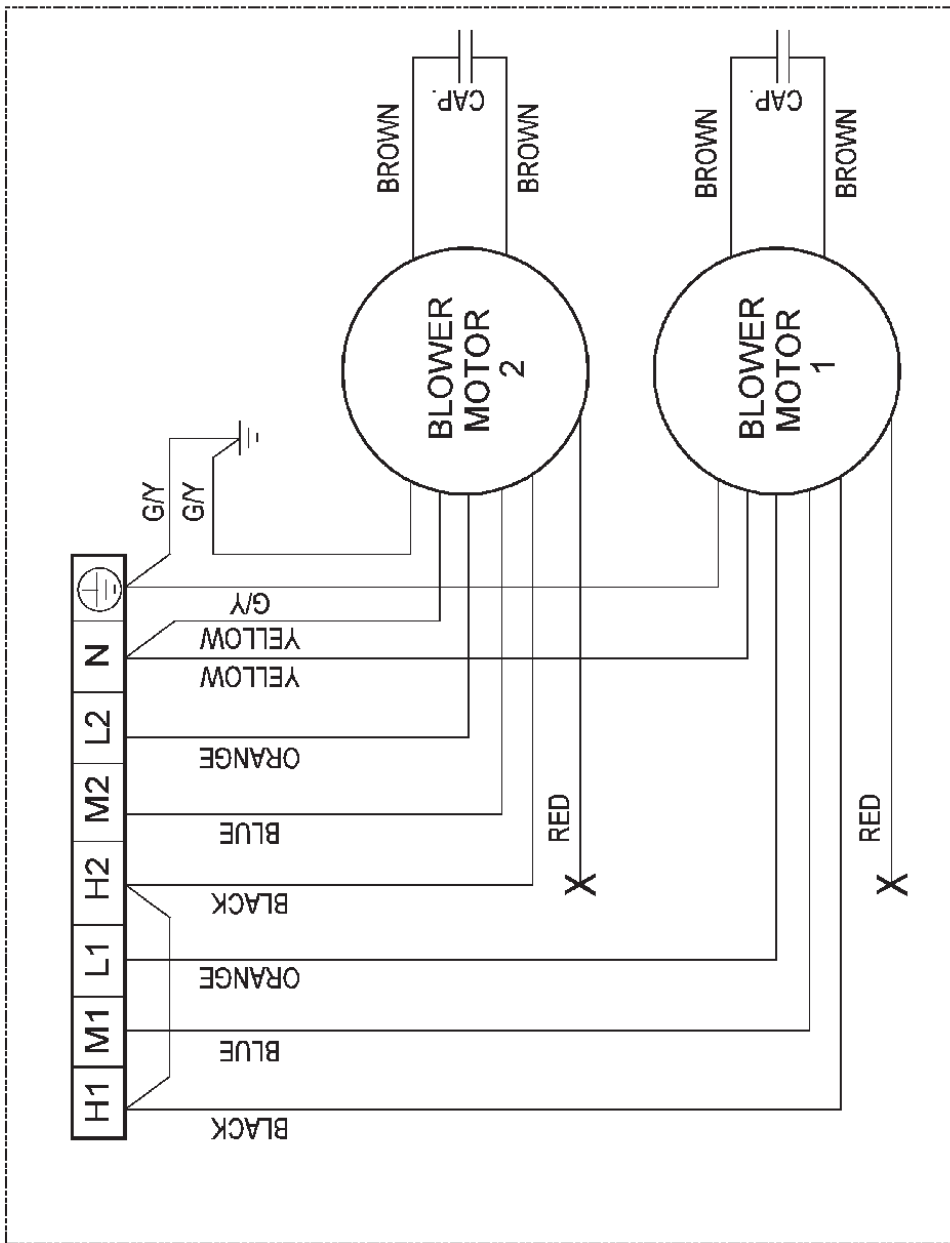
Model: ADB75BW



INDOOR UNIT

PART NO. 08 02 4 116889A

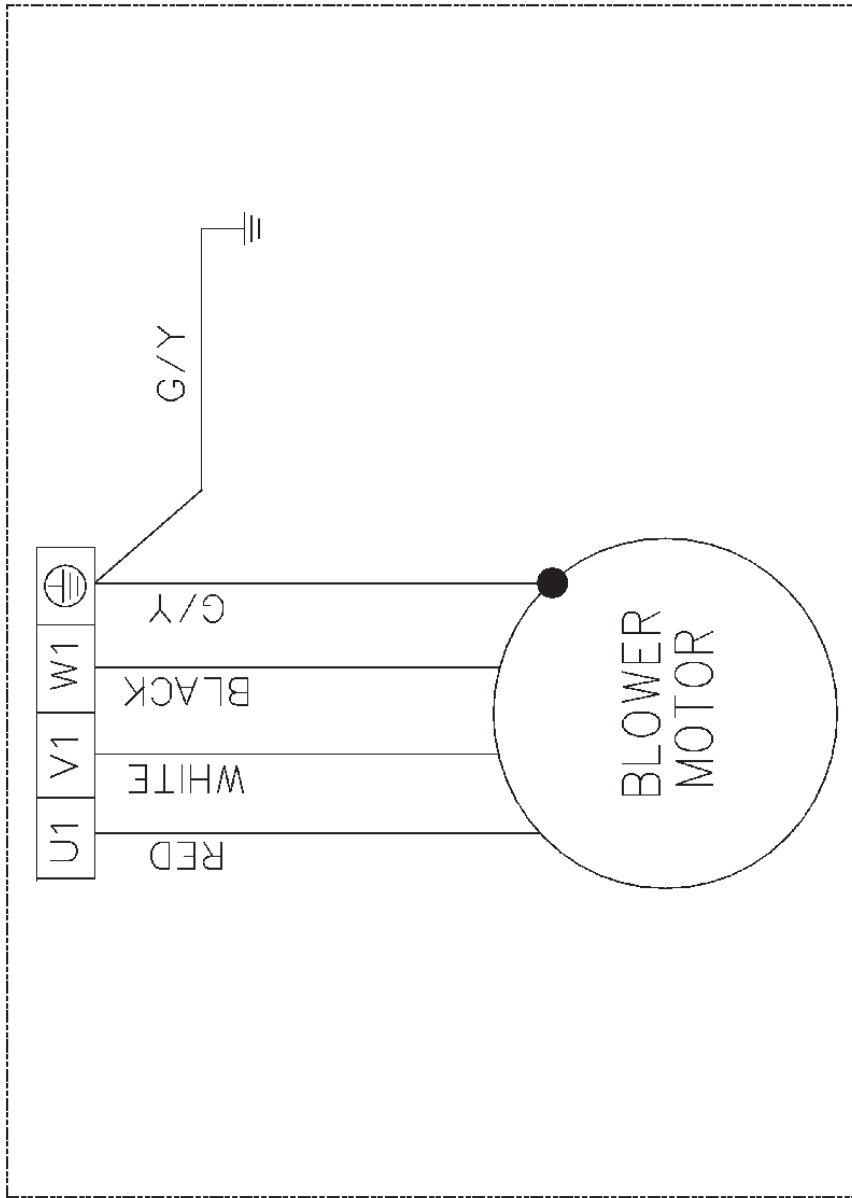
Model: ADB100BW



INDOOR UNIT

PART NO. 08 02 4 116890A

Model: ADB125/150BW



PART NO. 08 02 4 116193A

INDOOR UNIT

## SERVICE & MAINTAINANCE



### Caution

**Moving machinery and electrical power hazards. May cause severe personal injury or death. Disconnect from main power supply before servicing equipment.**

The unit is designed to give long life operation with minimum maintenance required. However, it should be regularly checked and the following items should be given due attention.

Components	Maintenance Procedures	Recommended Schedule
Air Filter (Indoor Unit)	<ol style="list-style-type: none"> <li>1. Remove any dust adhering to the filter by using a vacuum cleaner or wash in lukewarm water (below 40°C) with a neutral cleaning detergent.</li> <li>2. Rinse the filter well and dry before placing it back onto the unit.</li> <li>3. Note: Never use gasoline, volatile substances or chemicals to clean the filter.</li> </ol>	<p>At least once every 4 weeks.</p> <p>More frequently if necessary.</p>
Indoor Unit	<ol style="list-style-type: none"> <li>1. Clean any dirt or dust on the grille or panel by wiping it with a soft cloth soaked in lukewarm water (below 40°C) and a neutral detergent solution.</li> <li>2. Note: Never use gasoline, volatile substances or chemicals to clean the indoor unit.</li> </ol>	<p>At least once every 4 weeks.</p> <p>More frequently if necessary.</p>
Condense Drain Pan & Pipe	<ol style="list-style-type: none"> <li>1. Check the cleanliness and clean it if necessary.</li> </ol>	Every 3 months.
Indoor Fan	Check if there is any abnormal noise.	When necessary.
Indoor Coil	<ol style="list-style-type: none"> <li>1. Check and remove the dirt between the fins.</li> <li>2. Check and remove any obstacles which hinder air flowing into and out of the indoor unit.</li> </ol>	Every month.
Power Supply	<ol style="list-style-type: none"> <li>1. Check the voltage and current of the indoor unit.</li> <li>2. Check the electrical wiring for any faulty contacts caused by loose connections, foreign matters, etc. Tighten the wires onto the terminal block if necessary.</li> </ol>	Every 2 months.
Fan Motor Oil	All motors are pre-lubricated and sealed at factory.	No maintenance required.
























### Caution

Do not charge **OXYGEN, ACETYLENE OR OTHER FLAMMABLE** and poisonous gases into the unit when performing a leakage test or an air tight test. These gases could cause severe explosion and damage if expose to high temperature and pressure.

# TROUBLESHOOTING

Model	Board
AWM07/10/15/20/25LW	50WJWXX
AWM301W	W2_L
ACK10/15/20CW	W2
ACK20/25/30/40/50EW	W3
ACM15/20/25EW	W2
ACC10/15/20/25/30/40/50/60CW	W2
ADB75/100/125/150BW	N/A

## Self Diagnostic Table - 50WJWXX Board

	 COOL/HEAT (GREEN/RED)		Normal Operation/Fault Indication	Action	Error Code
	 Green		Cool mode	-	-
	 Red		Heat mode	-	-
			Timer on	-	-
			Sleep mode on	-	-
			Fan mode on	-	-
			Dry mode on	-	-
	 1 time		Room air sensor contact Loose/Short	Call your dealer	Blink E1
	 2 times		Indoor coil sensor open/short	Call your dealer	Blink E2
		 3 times	Pipe water temperature poor	-	Blink E4
		 1 time	Pipe water temperature bad	-	Blink E5
		 6 times	Hardware error (tact switch pin short)	Call your dealer	Blink E8
	 4 times		No feedback from indoor fan	Call your dealer	Blink E9

 ON

 ON or OFF

 Blinking

### Self Diagnostic Table – W2 Board

Fault Indication	COOL LED	Error Code	Action
Room sensor error (short/open)	Blink 1 time	E1	Check room sensor connection/change room air sensor
Pipe water sensor error (short/open)	Blink 2 times	E2	Check pipe water sensor connection/change pipe water sensor
Water pump error	Blink 6 times	E6	Clear the clogging at drain pipe. If pump is not working, change the pump
Pipe water temperature fault	Blink 5 times	E5	Check chiller condition (not working or just started)
Window open activated*	Blink 3 times	-	-
Antifreeze mode activated*	Blink 7 times	-	-
Load shedding activated*	Blink 8 times	-	-

\*Applicable for 4 pipes applications only.

### Self Diagnostic Table – W3 Board

	Event	Power LED	Timer LED	Error Code
1.	Room Sensor Open or Short	Blink 1 time	-	Blink E1
2.	Pipe Water sensor Open or Short	Blink 2 times	-	Blink E2
3.	Pipe Water Temperature poor	Blink 3 times	-	Blink E4
4.	Pipe Water Temperature bad/fault	-	Blink 1 time	Blink E5
5.	Water Pump Fault	-	Blink 2 times	Blink E6
6.	Hardware Error (tact switch pin Short/M3 or M4 Mode with valveless section)	-	Blink 6 times	Blink E8
7.	Window Open activated*	Blink 6 times	-	-
8.	Antifreeze mode activated*	Blink 7 times	-	-
9.	Load Shedding activated*	Blink 8 times	-	-

\*Only applicable for 4-pipes system.

### Self Diagnostic Table – W3DC Board

	Event	Power LED	Timer LED	Error Code
1.	Room Sensor Open or Short	Blink 1 time	-	Blink E1
2.	Pipe Water sensor Open or Short	Blink 2 times	-	Blink E2
3.	Pipe Water Temperature poor	Blink 3 times	-	Blink E4
4.	Pipe Water Temperature bad/fault	-	Blink 1 time	Blink E5
5.	Water Pump Fault	-	Blink 2 times	Blink E6
6.	Window Open activated*	Blink Cool 6 times	-	-
7.	Antifreeze mode activated*	Blink Cool 7 times	-	-
8.	Load Shedding activated*	Blink Cool 8 times	-	-
9.	Hardware Error	-	Blink 6 times	Blink E8
10.	No feedback from indoor fan	Blink Cool 4 times		Blink E9

\*Only applicable for 4-pipes system.



**ACSON MALAYSIA SALES & SERVICE SDN.BHD.** (129688-D)

a member of **DAIKIN** group

Lot 4, Lorong 19/1A, Seksyen 19, 46300 Petaling Jaya,  
Selangor Darul Ehsan, MALAYSIA.

Tel : +603 7964 8200 Sales Fax : +603 7956 9909

Service Fax : +603 7956 9907 Acson Careline : 1300 22 3344

Penang : +604-5377 176

Perak : +605-3129 828

Melaka : +606-2926 196

Johor : +607-3551 599

Pahang : +609 5178 696

Kelantan : +609-7733 688

Sarawak : +6082-344 128

Sabah : +6088-420 205

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