

# OMEGA Horizontal Ducted IDU

## SUBMITTAL DATA

**220-240V/1/50-60Hz**

Job: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Schedule No.: \_\_\_\_\_  
 System Designation: \_\_\_\_\_

Engineer: \_\_\_\_\_  
 Architect: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 For:      Reference      Approval      Review      Construction

### FEATURES

- Build in Drain Pump
- Auto Restart
- Water Overflow Protection
- Small Installation Space
- High-Efficiency DC Motor
- Flare Connections



**Slim Horizontal Ducted IDU**



**Horizontal Ducted IDU**

## Specifications

Model name			VELP008Q0A-DCV022	VELP010Q0A-DCV028	VELP012Q0A-DCV036
Power supply			1-phase, 220-240V, 50/60Hz		
Cooling <sup>1</sup>	Capacity	kW	2.2	2.8	3.6
		kBut/h	7.5	9.6	12.3
	Input	W	40	40	45
Heating <sup>2</sup>	Capacity	kW	2.6	3.2	4.0
		kBut/h	8.2	10.9	13.6
	Input	W	40	40	45
Fan motor	Model		ZKSP-30-8-3L	ZKSP-30-8-3L	ZKSP-30-8-3L
	Type		DC		
	Brand		Nidec/Welling/Yongan		
	Speed (H/M/L)	r/min	1010/936/863/790/740/690/640		1070/1004/937/870/830/790/750
Coil	Number of rows		2	2	2
	Tube pitch × row pitch	mm	21×13.37	21×13.37	21×13.37
	Fin spacing	mm	1.5	1.5	1.5
	Fin type		Hydrophilic aluminum		
	Tube OD and type	mm	Φ7 Inner groove		
	Dimensions (L×H ×W)	mm	515×147×26.74	515×147×26.74	515×147×26.74
	Number of circuits		3	4	4
Airflow rate <sup>3</sup>		m <sup>3</sup> /h	520/480/440/400/360/330/300		580/540/500/460/430/400/370
External static pressure <sup>4</sup>		Pa	10 (0~50)		
Sound pressure level <sup>5</sup>		dB(A)	32/31/29/28/26/25/23		33/32/31/30/28/27/25
Unit	Net dimensions <sup>6</sup> (W×H×D)	mm	780×210×500		
	Packed dimensions (W×H×D)	mm	870×285×525		
	Net/Gross weight	kg	18/21		
Refrigerant type			R410A		
Throttle	Type	Electronic expansion valve			
	Model	D20MISZ-1R(L)			
Design pressure (H/L)		MPa	4.4/2.6		
Pipe	Liquid/Gas pipe	mm	Φ6.35/Φ12.7		
connections	Drain pipe	mm	OD Φ25		

**Notes:**

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Stable operation external static pressure range. (Note: setting external static pressure outside the unit's optimal static pressure range may lead to higher noise levels and lower airflow rate. For the optimal external static pressure range refer to the unit's installation manual.)
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.
- Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

## Specifications

Model name			VELP015Q0A-DCV045	VELP019Q0A-DCV056	VEMP024Q0A-DCV071
Power supply			1-phase, 220-240V, 50/60Hz		
Cooling <sup>1</sup>	Capacity	kW	4.5	5.6	7.1
		kBut/h	15.4	19.1	24.2
	Input	W	92	92	98
Heating <sup>2</sup>	Capacity	kW	5	6.3	8
		kBut/h	17.1	21.5	27.3
	Input	W	92	92	98
Fan motor	Model		ZKSP-30-8-3L	ZKSP-30-8-3L	ZKSP-60-8-2
	Type		DC		
	Brand		Nidec/Welling/Yongan		
	Speed (H/M/L)	r/min	1080/1027/974/920/ 827/734/640	1090/1044/997/950/ 900/850/800	1070/1024/977/930/ 877/824/770
Coil	Number of rows		2	2	2
	Tube pitch × row pitch	mm	21×13.37	21×13.37	21×13.37
	Fin spacing	mm	1.3	1.3	1.3
	Fin type		Hydrophilic aluminum		
	Tube OD and type	mm	Φ7 Inner groove		
	Dimensions (L×H ×W)	mm	735×147×26.74	735×147×26.74	952×147×26.74
	Number of circuits		6	6	6
Airflow rate <sup>3</sup>	m <sup>3</sup> /h	800/740/680/620/ 540/480/400	830/760/720/680/ 640/600/560	1000/960/900/840/ 780/720/680	
External static pressure <sup>4</sup>	Pa	10 (0~50)			
Sound pressure level <sup>5</sup>	dB(A)	36/34/32/31/29/27/25	36/34/33/32/30/29/28	37/35/33/32/30/29/28	
Unit	Net dimensions <sup>6</sup>	mm	1000x210x500		1220x210x500
	Packed dimensions (W×H×D)	mm	1115x285x525		1335x285x525
	Net/Gross weight	kg	21.5/25		25.7/30.2
Refrigerant type			R410A		
Throttle	Type	Electronic expansion valve			
	Model	D20MISZ-1R(L)			
Design pressure (H/L)	MPa	4.4/2.6			
Pipe connections	Liquid/Gas pipe	mm	Φ6.35/ Φ12.7	Φ9.53/Φ15.9	
	Drain pipe	mm	OD Φ25		

**Notes:**

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Stable operation external static pressure range. (Note: setting external static pressure outside the unit's optimal static pressure range may lead to higher noise levels and lower airflow rate. For the optimal external static pressure range refer to the unit's installation manual.)
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.
- Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

## Specifications

Model name			VEMP038Q0A-DCV112	VEMP048Q0A-DCV140
Power supply			1-phase, 220-240V, 50/60Hz	
Cooling <sup>1</sup>	Capacity	kW	11.2	14
		kBut/h	38.2	47.8
	Input	W	200	250
Heating <sup>2</sup>	Capacity	kW	12.5	15.5
		kBut/h	42.7	52.9
	Input	W	200	250
Fan motor	Model		ZKFP-150-8-1	ZKFP-240-8-1
	Type		DC	
	Brand		Nidec/Welling/Match-Well	
	Speed (H/M/L)	r/min	920/884/847/810/770/730/690	1060/1010/960/910/860/810/760
Coil	Number of rows		4	4
	Tube pitch × row pitch	mm	21×13.37	21×13.37
	Fin spacing	mm	1.5	1.5
	Fin type		Hydrophilic aluminum	
	Tube OD and type	mm	Φ7 Inner groove	
	Dimensions (L×H ×W)	mm	955×336×58	1030×378×58
	Number of circuits		8	8
Airflow rate <sup>3</sup>		m <sup>3</sup> /h	1500/1430/1360/1290/1210/1140/1080	1960/1860/1760/1660/1560/1460/1360
External static pressure <sup>4</sup>		Pa	20 (10~100)	40 (30~150)
Sound pressure level <sup>5</sup>		dB(A)	39/38/38/37/35/34/33	41/39/38/37/36/35/33
Unit	Net dimensions <sup>6</sup> (W×H×D)		1230×270×775	1290×300×865
	Packed dimensions		1355×350×795	1400×375×925
	Net/Gross weight		37/45	46.5/55.5
Refrigerant type			R410A	
Throttle	Type	Electronic expansion valve		
	Model	BD24FKS(L)		
Design pressure (H/L)		MPa	4.4/2.6	
Pipe connections	Liquid/Gas pipe	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9
	Drain pipe	mm	OD Φ25	

**Notes:**

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Stable operation external static pressure range. (Note: setting external static pressure outside the unit's optimal static pressure range may lead to higher noise levels and lower airflow rate. For the optimal external static pressure range refer to the unit's installation manual.)
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.
- Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

## Specifications

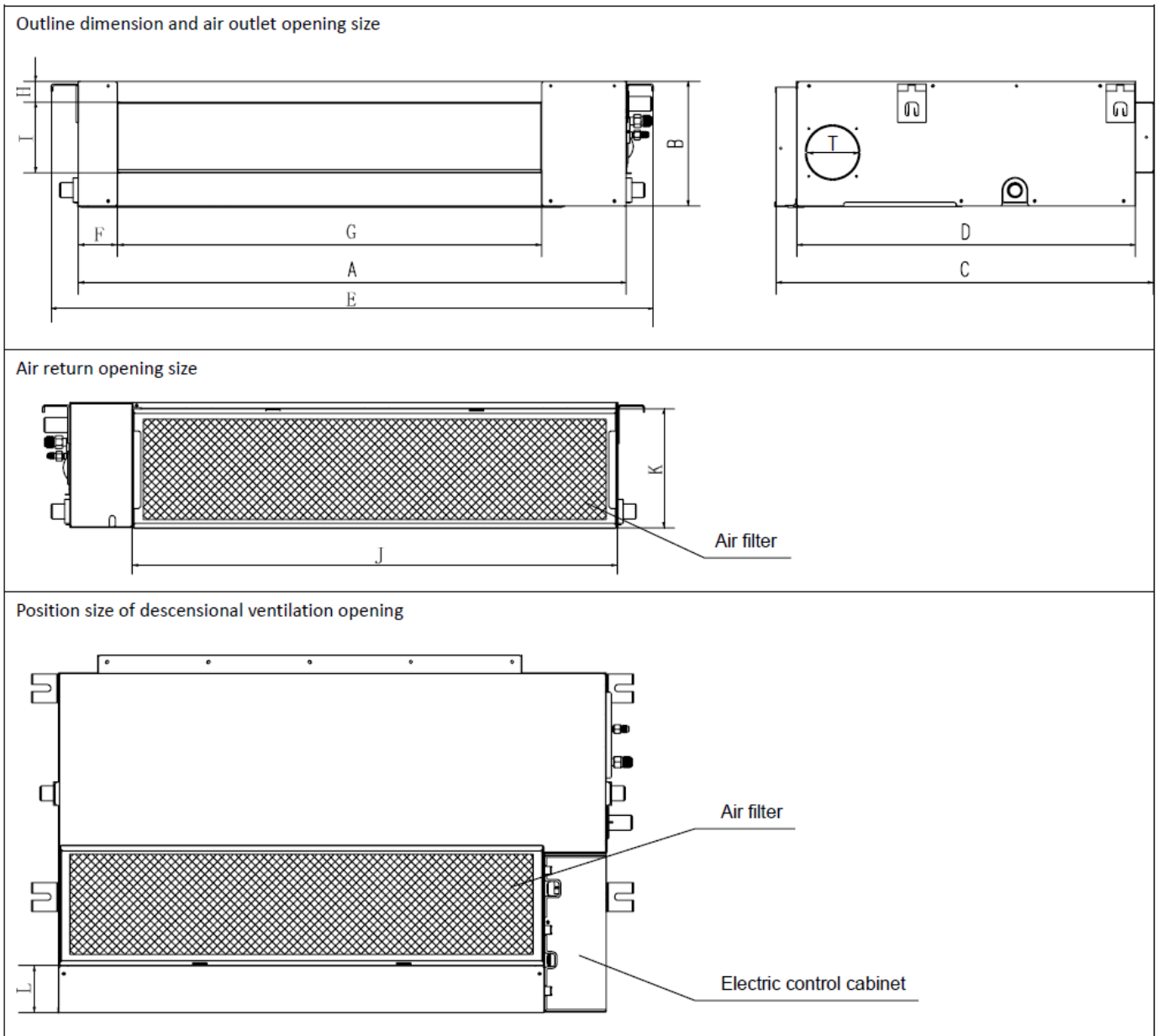
Model name			VEMP060Q0A-DCV160
Power supply			1-phase, 220-240V, 50/60Hz
Cooling <sup>1</sup>	Capacity	kW	16.0
		kBut/h	54.6
	Input	W	250
Heating <sup>2</sup>	Capacity	kW	18.0
		kBut/h	61.4
	Input	W	250
Fan motor	Type		DC
	Speed (H/M/L)	r/min	1020/950/900/860/810/750/690
Coil	Number of rows		4
	Tube pitch × row pitch	mm	21×13.37
	Fin spacing	mm	1.5
	Fin type		Hydrophilic aluminum
	Tube OD and type	mm	Φ7 Inner groove
	Dimensions (L×H ×W)	mm	1230×378×53.5
	Number of circuits		8
Airflow rate <sup>3</sup>		m <sup>3</sup> /h	2300/2100/2000/1900/1750/1600/1450
External static pressure <sup>4</sup>		Pa	40 (30~150)
Sound pressure level <sup>5</sup>		dB(A)	42/41/39/38/37/35/34
Unit	Net dimensions <sup>6</sup> (W×H×D)		1490×300×865
	Packed dimensions		1605×345×955
	Net/Gross weight		54/63
Refrigerant type			R410A
Throttle	Type	Electronic expansion valve	
	Model	BD24FKS(L)	
Design pressure (H/L)		MPa	4.4/2.6
Pipe connections	Liquid/Gas pipe	mm	Φ9.53/Φ15.9
	Drain pipe	mm	OD Φ25

**Notes:**

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Stable operation external static pressure range. (Note: setting external static pressure outside the unit's optimal static pressure range may lead to higher noise levels and lower airflow rate. For the optimal external static pressure range refer to the unit's installation manual.)
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.
- Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

**DIMENSIONAL DRAWINGS - (MM)**

Horizontal Ducted dimensions unit:(mm)



**DIMENSIONAL DRAWINGS - (MM)**

Horizontal Ducted dimensions (unit: mm)

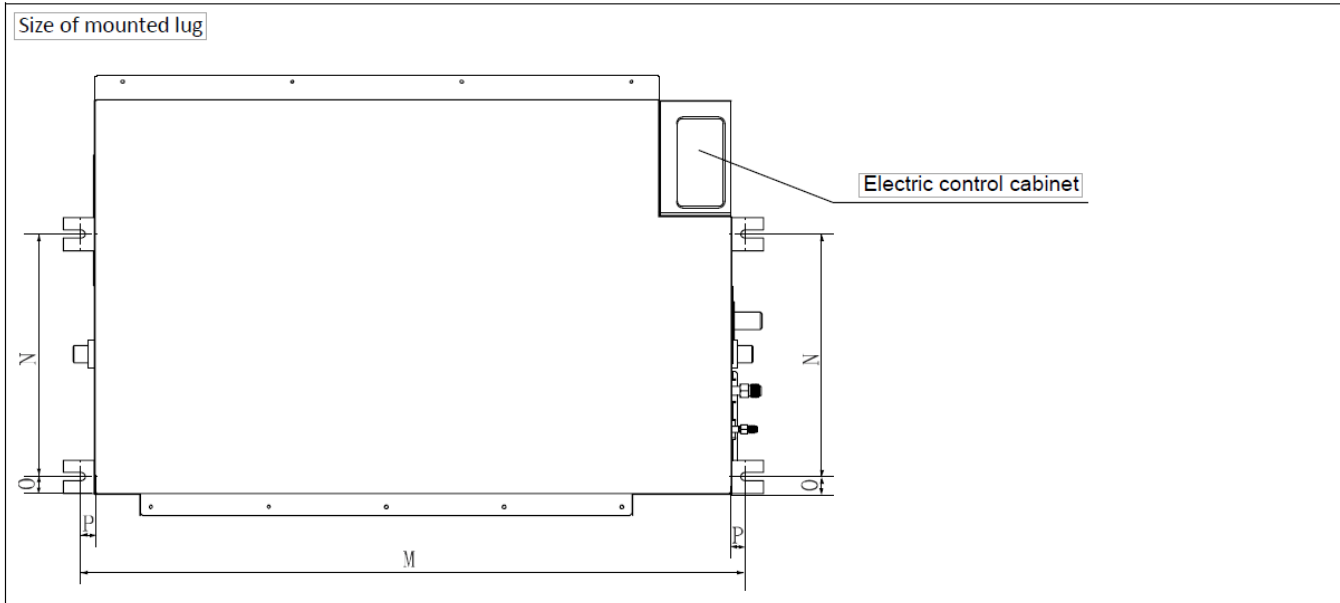


Table 2.1: Horizontal Duct dimensions (mm)

Model names	Dimension (mm)							
	A	B	C	D	E	F	G	H
VELP010Q0A-DCV028 - VELP012Q0A-DCV036	700	210	500	450	780	45	512	17
VELP015Q0A-DCV045 - VELP019Q0A-DCV056	920	210	500	450	1000	45	732	17
VEMP024Q0A-DCV071	1140	210	500	450	1220	45	950	17
VEMP038Q0A-DCV112	1140	270	775	710	1230	65	933	35
VEMP048Q0A-DCV140	1200	300	865	800	1290	85	969	40
VEMP060Q0A-DCV140	1400	300	865	800	1490	85	1169	40
Model names	Dimension (mm)							
	I	J	K	L	M	N	O	P
VELP010Q0A-DCV028 - VELP012Q0A-DCV036	145	570	180	-	740	350	35	20
VELP015Q0A-DCV045 - VELP019Q0A-DCV056	145	790	180	-	960	350	35	20
VEMP024Q0A-DCV071	145	1010	180	-	1180	350	35	20
VEMP038Q0A-DCV112 - VEMP048Q0A-DCV140	179	1035	260	20	1180	490	26	20
VEMP060Q0A-DCV140	204	1294	288		1440	500	26	20

Table 2.2: Horizontal Duct piping connections

Model names	Gas pipe (mm)	Liquid pipe (mm)
VELP010Q0A-DCV028 - VELP015Q0A-DCV045	Φ12.7	Φ6.35
VELP019Q0A-DCV056 - VEMP060Q0A-DCV140	Φ15.9	Φ9.53

**Electrical Characteristics**

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
VELP008Q0A-DCV022	50/60	220-240	198	264	0.74	15	0.03	0.59
VELP010Q0A-DCV028	50/60	220-240	198	264	0.74	15	0.03	0.59
VELP012Q0A-DCV036	50/60	220-240	198	264	0.77	15	0.03	0.62
VELP015Q0A-DCV045	50/60	220-240	198	264	1	15	0.03	0.80
VELP019Q0A-DCV056	50/60	220-240	198	264	1	15	0.03	0.80
VELP024Q0A-DCV071	50/60	220-240	198	264	1.1	15	0.06	0.88
VEMP027Q0A-DCV080	50/60	220-240	198	264	1.3	15	0.15	1.04
VEMP031Q0A-DCV090	50/60	220-240	198	264	1.3	15	0.15	1.04
VEMP038Q0A-DCV112	50/60	220-240	198	264	1.5	15	0.15	1.20
VEMP048Q0A-DCV140	50/60	220-240	198	264	2.6	15	0.24	2.08
VEMP060Q0A-DCV160	50/60	220-240	198	264	2.6	15	0.24	1.92

Abbreviations:

MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps



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