

# G4 LOW PROFILE UNIT COOLER

**EDEN**<sup>®</sup>  
*The Cool Solution*



FEM - Medium Temperature Application  
Capacity: 2.35kW to 16.7kW

FEME PD6 - Partial Defrost Application  
(Room Temp: +2°C to -6°C)  
Capacity: 2.2kW to 13.4kW

FEME - Low Temperature Application  
Capacity: 1.32kW to 7.95kW

FEME LT6 - Low Temperature Application (6FPI)  
Capacity: 1.45kW to 9.1kW

Effective Air Throw: 10.8m to 13.7m

# G4 Low Profile Series Unit Cooler

## FEM / FEME PD6 / FEME / FEME LT6

### General Features

**Coils** are designed with the Latest Smart Circuitry. It allows maximum massflow rate of refrigerant to be evenly distributed throughout the evaporator, maximizing coil efficiency thus providing higher efficiency and capacity with a smaller physical unit cooler dimension.

**Copper Tubes** are accordance with JIS. C12T. Inner Groove Tubes (IGT) increases the internal coil surface, having a low oil film coefficient thus providing higher efficiency and capacity.

**Casing** comes in high quality powder coated Aluminum, according to AA 1100 Standard. Centre plates built in to enhance air side performance and structural strength for models with 2 or more fans.

**Defrosting** is by electrical sheathed stainless steel heater elements fitted with molded insulated connection and ultra low temperature silicone leads (rated to  $-80^{\circ}\text{C}$ ), to ensure effective defrosting and durability. Water resulting from defrosting is channeled to the drain pan with a centrally positioned outlet for positive draining from all points.

**Fins** are produced from high-grade aluminum (Aluminum Association -AA 1100 Standard) with Double Sine Wave Pattern and Rippled Fin Edges to provide higher heat transfer efficiency.

**Fan Motors** used in all the models are high quality German motors, fitted with thermistor motor protection and conform to DIN 40050 safety standards. Fan motors are of the highest quality offered in the industry ensuring long life and durability for both high and low temperature application.

**Capacity Ratings** are thermally guaranteed by Eden and tested in accordance to ASHRAE dry box standards.

**Quality Assurance** for all Eden products are designed, manufactured and tested in our factories that are ISO9001 certified.

**One Year Warranty** for all Eden Heat Exchanger products. Terms and conditions apply.



# G4 Low Profile Series Unit Cooler

## FEM / FEME PD6 / FEME / FEME LT6

### Options

- a) Copper-Fins Coil (Available only for 6FPI to 12FPI)
- b) Epoxy-Coated Aluminum Fin Coil (Only on large volume orders)
- c) Passivated Corrosion Protection For All Aluminum Fin Products
- d) Hot Gas Bypass
- e) Dual Fins (Staggered Fins)
- f) Stainless Steel Casing
- g) Special Circuitry For Ultra Low Temperature Or Overfeed Systems
- h) Chilled Water Coils, Brine Coils Or Liquid Overfeed Coils
- l) CO<sub>2</sub> Application

## NOMENCLATURE

FEME 0220 PD6

PD6 / LT6	Partial Defrost / Low Temperature 6FPI)
0220	Capacities in W at R22 (2200W)
E / H	Electric Defrost / Hot Gas
FEM	EDEN G4 Low Profile Unit Cooler



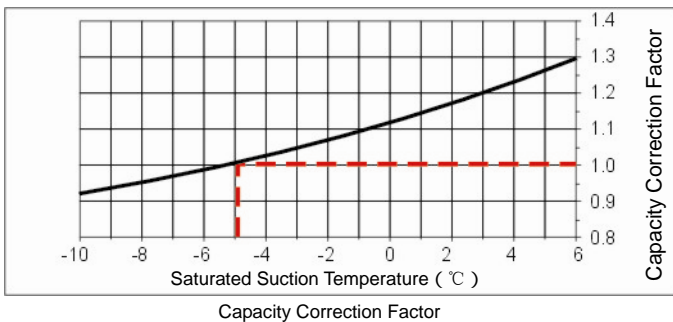
# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

## FEM-Low Profile Series Unit Cooler Specifications

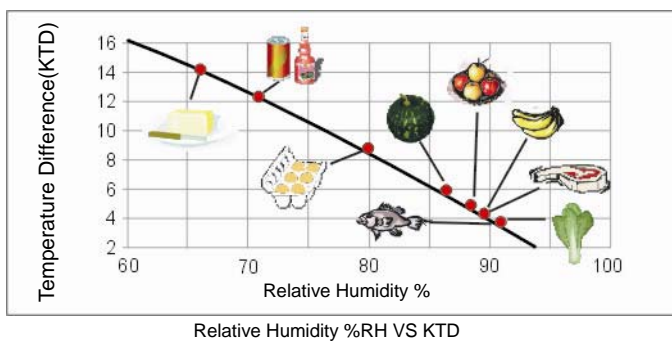
Air Defrost 6FPI Room Temperature +3°C

Model	Capacity R22				Fan Data							
	ASHRAE		EUROVENT*		No. Of Fan 300mm	Fan Motor			Fan Speed	Air Flow		Air Throw (m)
	Watts	Btu/hr	Watt	Btu/hr		(V/Ph/Hz)	(Watt)	(Amp)	(Rpm)	(L/s)	(m³/h)	
	8 KTD	14.4 FTD	8 KTD	14.4 FTD								
FEM 0235	2,350	8,018	2,566	8,756	1	230/1/50	73	0.32	1390	426	1534	11.5
FEM 0303	3,030	10,338	3,309	11,289	1	230/1/50	73	0.32	1390	416	1496	11.3
FEM 0397	3,970	13,546	4,335	14,792	1	230/1/50	73	0.32	1390	398	1431	11.2
FEM 0452	4,520	15,422	4,936	16,841	1	230/1/50	73	0.32	1390	379	1366	11.0
FEM 0492	4,920	16,787	5,373	18,331	1	230/1/50	73	0.32	1390	335	1206	10.8
FEM 0590	5,900	20,131	6,443	21,983	2	230/1/50	146	0.64	1390	790	2843	12.0
FEM 0700	7,000	23,884	7,644	26,081	2	230/1/50	146	0.64	1390	777	2797	11.8
FEM 0790	7,900	26,955	8,627	29,435	2	230/1/50	146	0.64	1390	761	2740	11.5
FEM 0873	8,730	29,787	9,533	32,527	2	230/1/50	146	0.64	1390	749	2698	11.3
FEM 1095	10,950	37,361	11,957	40,799	3	230/1/50	219	0.96	1390	1150	4140	13.3
FEM 1290	12,900	44,015	14,087	48,064	3	230/1/50	219	0.96	1390	1134	4083	13.1
FEM 1350	13,500	46,062	14,742	50,300	3	230/1/50	219	0.96	1390	1085	3908	12.9
FEM 1408	14,080	48,041	15,375	52,461	4	230/1/50	292	1.28	1390	1538	5537	13.7
FEM 1510	15,100	51,521	16,489	56,261	4	230/1/50	292	1.28	1390	1523	5484	13.6
FEM 1670	16,700	56,980	18,236	62,223	4	230/1/50	292	1.28	1390	1505	5419	13.4

## Application & Correction Factor Guideline



Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.95
R407C	0.93
R134A	0.975
R404A	0.989
R507	0.989
R417A	0.91



Products	Storage Temperature	Recommended RH %
Apple	1.5	87%
Banana	5.0	88%
Dairy Product	2.0	65%
Egg, Shell	5.0 to 6.0	80%
Fish, Fresh	0 to 1.0	90 - 95%
Beef, Fresh	0 to 1.0	88 - 92%
Chicken	-1.0 to 1.0	95%
Watermelon	3.0 to 5.0	85%
Vegetables	1.0 to 2.0	90 - 95%
Bottle/Can Drink	3.0 to 4.0	70%

### Capacity Ratings & Conditions

All Eden Heat Exchangers Are Tested in Accordance To ASHRAE Dry Box Standard.  
(Recommended For Asia Usage)

\*EUROVENT Data is used for comparison purposes

\*EUROVENT Data is based on SC2 Nominal Capacity

SC2 Condition - Air Inlet Temperature = 0°C and Evaporating Temperature = -8°C

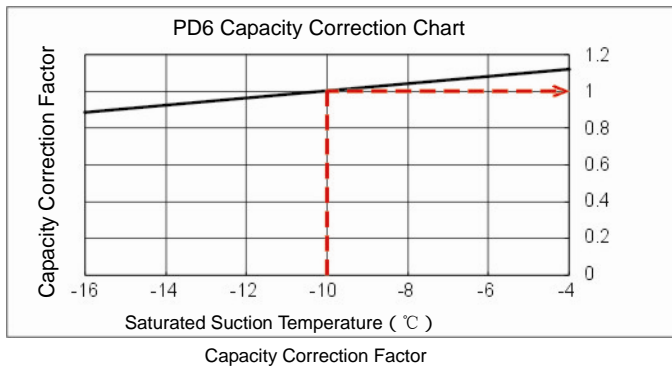
# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

## FEME PD6-Low Profile Series Unit Cooler Specifications

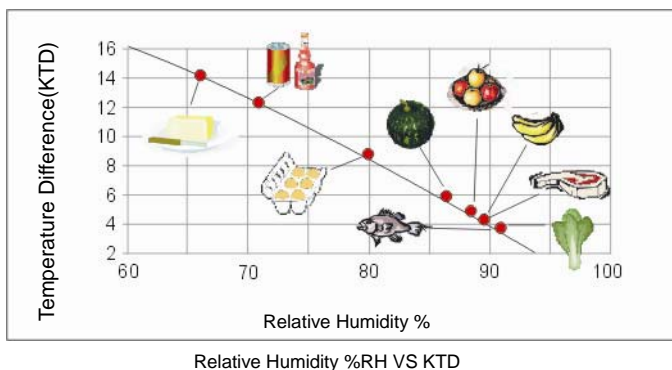
Electric Defrost 6FPI Room Temperature -4°C

Model	Capacity R22				No. Of Fan 300mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(WattS)	(Amp)	(Rpm)	(L/s)	(m³/h)			
6 KTD	10.8 FTD	8 KTD	14.4 FTD											
FEME 0220 PD6	2.200	7.506	3.300	11.260	1	230/1/50	73	0.32	1390	419	1510	11.5	1x750	1x270
FEME 0310 PD6	3.100	10.577	4.650	15.866	1	230/1/50	73	0.32	1390	401	1445	11.3	1x750	1x270
FEME 0360 PD6	3.600	12.283	5.400	18.425	1	230/1/50	73	0.32	1390	383	1379	11.1	1x750	1x270
FEME 0400 PD6	4.000	13.648	6.000	20.472	2	230/1/50	146	0.64	1390	798	2870	12.0	1x1110	1x675
FEME 0480 PD6	4.800	16.378	7.200	24.566	2	230/1/50	146	0.64	1390	785	2824	12.0	1x1110	1x675
FEME 0590 PD6	5.900	20.131	8.850	30.196	2	230/1/50	146	0.64	1390	769	2766	11.8	1x1110	1x675
FEME 0700 PD6	7.000	23.884	10.500	35.826	3	230/1/50	219	0.96	1390	1162	4179	12.5	1x1600	1x675
FEME 0840 PD6	8.400	28.661	12.600	42.991	3	230/1/50	219	0.96	1390	1146	4122	12.5	1x1600	1x675
FEME 1020 PD6	10.200	34.802	15.300	52.204	4	230/1/50	292	1.28	1390	1554	5590	13.5	1x2040	1x675
FEME 1160 PD6	11.600	39.579	17.400	59.369	4	230/1/50	292	1.28	1390	1539	5535	13.5	1x2040	1x675
FEME 1340 PD6	13.400	45.721	20.100	68.581	4	230/1/50	292	1.28	1390	1520	5470	13.3	1x2040	1x675

## Application & Correction Factor Guideline



Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.95
R407C	0.93
R134A	0.975
R404A	0.989
R507	0.989
R417A	0.91



Products	Storage Temperature (°C)	Recommended RH %
Apple	1.5	87%
Banana	5.0	88%
Dairy Product	2.0	65%
Egg, Shell	5.0 to 6.0	80%
Fish, Fresh	0 to 1.0	90 - 95%
Beef, Fresh	0 to 1.0	88 - 92%
Chicken	-1.0 to 1.0	95%
Watermelon	3.0 to 5.0	85%
Vegetables	1.0 to 2.0	90 - 95%
Bottle/Can Drink	3.0 to 4.0	70%

### Capacity Ratings & Conditions

All Eden Heat Exchangers Are Tested in Accordance To ASHRAE Dry Box Standard.  
(Recommended For Asia Usage)

\*EUROVENT Data is used for comparison purposes

\*EUROVENT Data is based on SC2 Nominal Capacity

SC2 Condition - Air Inlet Temperature = 0°C and Evaporating Temperature = -8°C

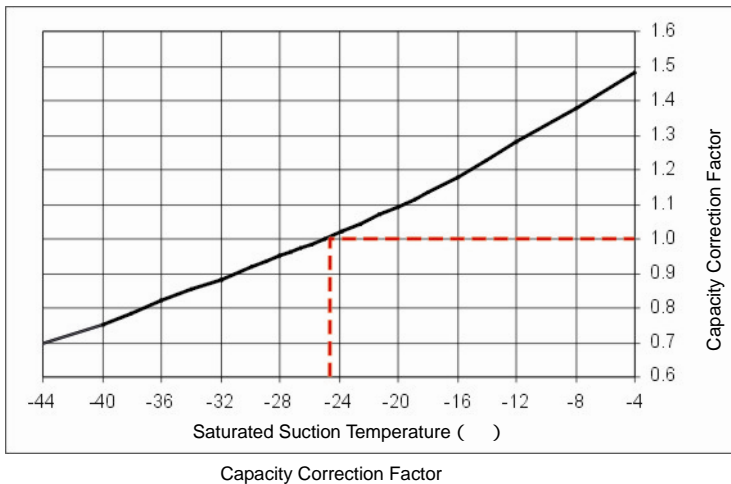
# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

## FEME-Low Profile Series Unit Cooler Specifications

Electric Defrost 4FPI Room Temperature -19°C

Model	Capacity R22				No. Of Fan 300mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT*SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(Watt)	(Amp)	(Rpm)	(L/s)	(m³/h)			
FEME 0132	1,320	4,504	1,610	5,495	1	230/1/50	73	0.32	1390	437	1572	11.5	2x750	1x270
FEME 0178	1,780	6,073	2,172	7,409	1	230/1/50	73	0.32	1390	425	1529	11.5	2x750	1x270
FEME 0216	2,160	7,370	2,635	8,991	1	230/1/50	73	0.32	1390	398	1433	11.3	2x750	1x270
FEME 0238	2,380	8,121	2,904	9,907	2	230/1/50	146	0.64	1390	830	2989	12.0	2x1110	1x675
FEME 0290	2,900	9,895	3,538	12,072	2	230/1/50	146	0.64	1390	816	2939	12.0	2x1110	1x675
FEME 0339	3,390	11,567	4,136	14,111	2	230/1/50	146	0.64	1390	799	2877	11.8	2x1110	1x675
FEME 0395	3,950	13,477	4,819	16,442	2	230/1/50	146	0.64	1390	763	2746	12.5	2x1110	1x675
FEME 0450	4,500	15,354	5,490	18,732	3	230/1/50	219	0.96	1390	1198	4314	12.5	2x1600	1x675
FEME 0512	5,120	17,469	6,246	21,313	3	230/1/50	219	0.96	1390	1192	4291	12.5	2x1600	1x675
FEME 0585	5,850	19,960	7,137	24,351	4	230/1/50	292	1.28	1390	1616	5817	13.5	2x2040	1x675
FEME 0710	7,100	24,225	8,662	29,555	4	230/1/50	292	1.28	1390	1601	5763	13.5	2x2040	1x675
FEME 0795	7,950	27,125	9,699	33,093	4	230/1/50	292	1.28	1390	1581	5693	13.3	2x2040	1x675

## Application & Correction Factor Guideline



Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.95
R407C	0.93
R134A	0.975
R404A	0.989
R507	0.989
R417A	0.91

### Capacity Ratings & Conditions

All Eden Heat Exchangers Are Tested in Accordance To ASHRAE Dry Box Standard. (Recommended For Asia Usage)

\*EUROVENT Data is used for comparison purposes

\*EUROVENT Data is based on SC3 Nominal Capacity

SC3 Condition - Air Inlet Temperature = -18°C and Evaporating Temperature = -25°C

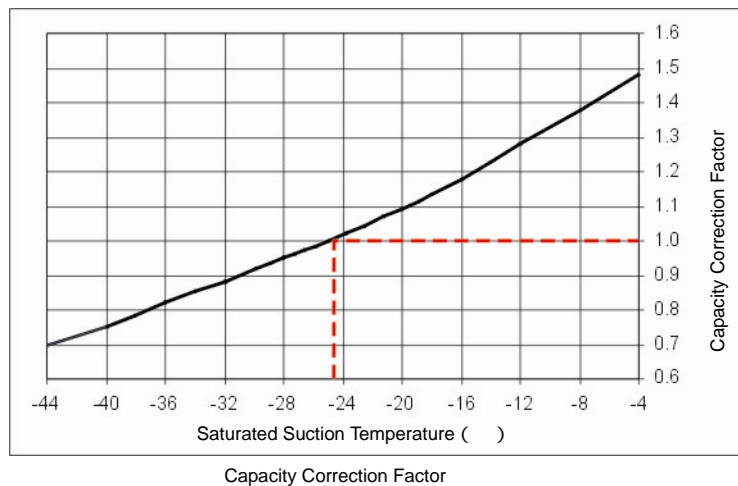
# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

## FEME LT6-Low Profile Series Unit Cooler Specifications

Electric Defrost 6FPI Room Temperature -19°C

Model	Capacity R22				No. Of Fans 300mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC3*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(Watt)	(Amp)	(Rpm)	(L/s)	(m³/h)			
	6 KTD	10.8 FTD	7 KTD	12.6 FTD										
FEME 0145 LT6	1.450	4.947	1.769	6.036	1	230/1/50	73	0.32	1390	392	1411	11.5	2x750	1x270
FEME 0196 LT6	1.960	6.688	2.391	8.159	1	230/1/50	73	0.32	1390	375	1350	11.5	2x750	1x270
FEME 0262 LT6	2.620	8.939	3.196	10.906	1	230/1/50	73	0.32	1390	358	1289	11.3	2x750	1x270
FEME 0317 LT6	3.170	10.816	3.867	13.196	2	230/1/50	146	0.64	1390	745	2682	12.0	2x1110	1x675
FEME 0378 LT6	3.780	12.897	4.162	15.735	2	230/1/50	146	0.64	1390	733	2639	12.0	2x1110	1x675
FEME 0413 LT6	4.130	14.092	5.039	17.192	2	230/1/50	146	0.64	1390	718	2585	11.8	2x1110	1x675
FEME 0500 LT6	5.000	17.060	6.100	20.813	3	230/1/50	219	0.96	1390	1085	3906	12.5	2x1600	1x675
FEME 0604 LT6	6.040	20.608	7.369	25.142	3	230/1/50	219	0.96	1390	1060	3816	12.5	2x1600	1x675
FEME 0672 LT6	6.720	22.929	8.198	27.973	4	230/1/50	292	1.28	1390	1451	5224	13.6	2x2040	1x675
FEME 0821 LT6	8.210	28.013	10.016	34.175	4	230/1/50	292	1.28	1390	1437	5173	13.5	2x2040	1x675
FEME 0910 LT6	9.100	31.049	11.102	37.880	4	230/1/50	292	1.28	1390	1420	5112	13.5	2x2040	1x675

## 6 Application & Correction Factor Guideline



Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.95
R407C	0.93
R134A	0.975
R404A	0.989
R507	0.989
R417A	0.91

LP:08.11.Ver 1.2

### Capacity Ratings & Conditions

All Eden Heat Exchangers Are Tested in Accordance To ASHRAE Dry Box Standard.  
(Recommended For Asia Usage)

\*EUROVENT Data is used for comparison purposes

\*EUROVENT Data is based on SC3 Nominal Capacity

SC3 Condition - Air Inlet Temperature = -18°C and Evaporating Temperature = -25°C

LP:08.11.Ver 1.2

## Technical Specifications for FEM / FEME PD6

Model	Dimensions								Weight (kg)*	Liquid Connection (mm)	Suction Connection (mm)	Drain Pipe (mm)
	A	B	H	W	L	H*	W*	L*				
FEM 0235	627.5	-	478	321	884	650	595	1020	28	12.7	22.2	25.4
FEM 0303	627.5	-	478	321	884	650	595	1020	29	12.7	22.2	25.4
FEM 0397	627.5	-	478	321	884	650	595	1020	31	12.7	22.2	25.4
FEM 0452	627.5	-	478	321	884	650	595	1020	33	12.7	22.2	25.4
FEM 0492	627.5	-	478	321	884	650	595	1020	34	12.7	22.2	25.4
FEM 0590	927.5	-	478	321	1,184	650	595	1325	37	12.7	28.6	25.4
FEM 0700	927.5	-	478	321	1,184	650	595	1325	40	12.7	28.6	25.4
FEM 0790	927.5	-	478	321	1,184	650	595	1325	42	12.7	28.6	25.4
FEM 0873	927.5	-	478	321	1,184	650	595	1325	45	12.7	28.6	25.4
FEM 1095	1427.5	-	478	321	1,684	650	595	1825	52	12.7	28.6	25.4
FEM 1290	1427.5	-	478	321	1,684	650	595	1825	56	12.7	28.6	25.4
FEM 1350	1427.5	-	478	321	1,684	650	595	1825	60	15.8	28.6	25.4
FEM 1408	1827.5	913.7	478	321	2,084	650	595	2230	64	15.8	28.6	25.4
FEM 1510	1827.5	913.7	478	321	2,084	650	595	2230	69	15.8	28.6	25.4
FEM 1670	1827.5	913.7	478	321	2,084	650	595	2230	74	15.8	28.6	25.4
FEME 0220 PD6	627.5	-	478	321	8,84	650	595	1020	29	12.7	22.2	25.4
FEME 0310 PD6	627.5	-	478	321	8,84	650	595	1020	31	12.7	22.2	25.4
FEME 0360 PD6	627.5	-	478	321	8,84	650	595	1020	34	12.7	22.2	25.4
FEME 0400 PD6	627.5	-	478	321	1,186	650	595	1325	38	12.7	22.2	25.4
FEME 0480 PD6	627.5	-	478	321	1,186	650	595	1325	40	12.7	28.6	25.4
FEME 0590 PD6	627.5	-	478	321	1,186	650	595	1325	42	12.7	28.6	25.4
FEME 0700 PD6	1,427.5	-	478	321	1,686	650	595	1825	53	12.7	28.6	25.4
FEME 0840 PD6	1,427.5	-	478	321	1,686	650	595	1825	57	12.7	28.6	25.4
FEME 1020 PD6	1,827.5	913.7	478	321	2,086	650	595	2230	64	15.8	28.6	25.4
FEME 1160 PD6	1,827.5	913.7	478	321	2,086	650	595	2230	69	15.8	28.6	25.4
FEME 1340 PD6	1,827.5	913.7	478	321	2,086	650	595	2230	174	15.8	28.6	25.4

\* Packed Dimensions/Weight



# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

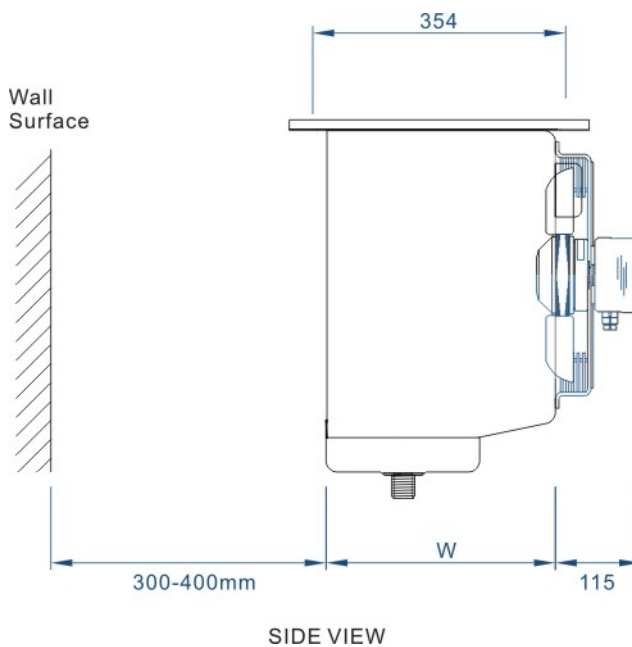
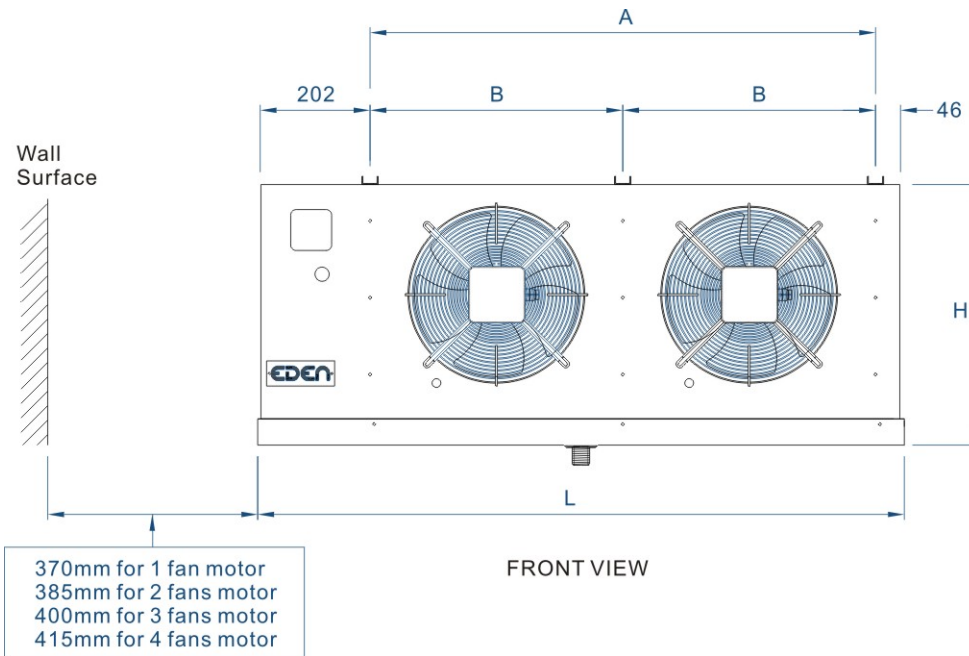
## Technical Specifications for FEME / FEME LT6

Model	Dimensions								Weight (kg)*	Liquid Connection (mm)	Suction Connection (mm)	Drain Pipe (mm)
	A	B	H	W	L	H*	W*	L*				
FEME 0132	627.5	-	478	321	884	650	595	1,020	29	12.7	22.2	25.4
FEME 0178	627.5	-	478	321	884	650	595	1,020	31	12.7	22.2	25.4
FEME 0216	627.5	-	478	321	884	650	595	1,020	34	12.7	22.2	25.4
FEME 0238	927.5	-	478	321	1,184	650	595	1,325	37	12.7	22.2	25.4
FEME 0290	927.5	-	478	321	1,184	650	595	1,325	40	12.7	28.6	25.4
FEME 0339	927.5	-	478	321	1,184	650	595	1,325	42	12.7	28.6	25.4
FEME 0395	927.5	-	478	321	1,184	650	595	1,325	45	12.7	28.6	25.4
FEME 0450	1427.5	-	478	321	1,684	650	595	1,825	53	12.7	28.6	25.4
FEME 0512	1427.5	-	478	321	1,684	650	595	1,825	56	12.7	28.6	25.4
FEME 0585	1827.5	913.7	478	321	2,084	650	595	2,230	64	15.8	28.6	25.4
FEME 0710	1827.5	913.7	478	321	2,084	650	595	2,230	68	15.8	28.6	25.4
FEME 0795	1827.5	913.7	478	321	2,084	650	595	2,230	73	15.8	28.6	25.4
FEME 0145 LT6	627.5	-	478	321	884	650	595	1,020	29	12.7	22.2	25.4
FEME 0196 LT6	627.5	-	478	321	884	650	595	1,020	31	12.7	22.2	25.4
FEME 0262 LT6	627.5	-	478	321	884	650	595	1,020	34	12.7	28.6	25.4
FEME 0317 LT6	927.5	-	478	321	1,184	650	595	1,325	40	12.7	28.6	25.4
FEME 0378 LT6	927.5	-	478	321	1,184	650	595	1,325	42	12.7	28.6	25.4
FEME 0413 LT6	927.5	-	478	321	1,184	650	595	1,325	45	12.7	28.6	25.4
FEME 0500 LT6	1427.5	-	478	321	1,684	650	595	1,825	53	12.7	28.6	25.4
FEME 0604 LT6	1427.5	-	478	321	1,684	650	595	1,825	57	15.8	28.6	25.4
FEME 0672 LT6	1827.5	913.7	478	321	2,084	650	595	2,230	64	15.8	28.6	25.4
FEME 0821 LT6	1827.5	913.7	478	321	2,084	650	595	2,230	69	15.8	28.6	25.4
FEME 0910 LT6	1827.5	913.7	478	321	2,084	650	595	2,230	74	15.8	28.6	25.4

\* Packed Dimensions/Weight

# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

## Installation Guide for FEM / FEME PD6 / FEME / FEME LT6



# G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

## ADDITIONAL INFORMATION

### Example:

Application: Apple Cooler

Required Room Temperature: 1.5°C

Ambient: +35°C

Evaporating Temperature: -3.5°C at 5KTD (Recommended)

Cooling Capacity: 4.3kW (Inclusive of the Fan and Heater load)

Type of Refrigerant: R22

### Selection of the Eden G4 Unit Cooler as follow:

1. Determine the Correction Factors and Multiplier (Refers to page 2):
  - a. Capacity Correction Factor is approx. 1.04
  - b. Refrigerant multiplier = 1
2. Calculation of required Capacity:
  - a.  $4.3\text{kW} / 1.04 / 1 = 4.13\text{kW}$  (Inclusive of the Fan and Heater load)
3. Calculate the unit cooler Capacity needed at 5KTD
  - a.  $4.13 \times 8 / 5 = 6.61\text{kW}$
4. Hence a **FEM 0700** is the suitable unit cooler for the above application.

### Eden Select:



The Eden Select software enables you to do a refrigeration heat load calculation and select the actual model for the unit cooler and condenser.



Far East Maju Engineering Works Sdn Bhd  
Tel: (60)-3 8961 0910 Fax: (60)-3 8961 5970  
Email: eden@edeng3.com  
www.edensolution.com



Shanghai Eden Refrigeration Co., Ltd.  
Tel: (86)-21 51620218 Fax: (86)-21 51620208  
Email: edensolution@fareastref.com  
www.edensolution.com



Eden Refrigeration Manufacturing  
(Jiangsu) Co.,Ltd.





**EDEN**<sup>®</sup>  
*The Cool Solution*

Visit Us:  
[www.edensolution.com](http://www.edensolution.com)

AUTHORISED DEALER

Eden accepts no responsibility for possible errors in catalogues, brochures and other printed materials. Eden reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed.