

G4 LOW PROFILE UNIT COOLER

EDEN[®]
The Cool Solution



FEM - Medium Temperature Application
Capacity: 2.324kW to 16.7kW

FEME PD6 - Partial Defrost Application
(Room Temp: +2°C to -6°C)
Capacity: 2.176kW to 13.4kW

FEME - Low Temperature Application
Capacity: 1.305kW to 7.95kW

FEME LT6 - Low Temperature Application (6FPI)
Capacity: 1.434kW 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 Tube (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 are 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°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 brand 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

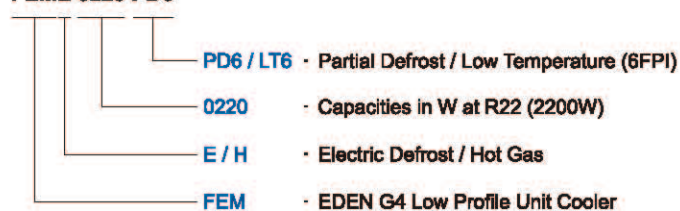
Options

- 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
- i) CO₂ Application

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NOMENCLATURE

FEME 0220 PD6

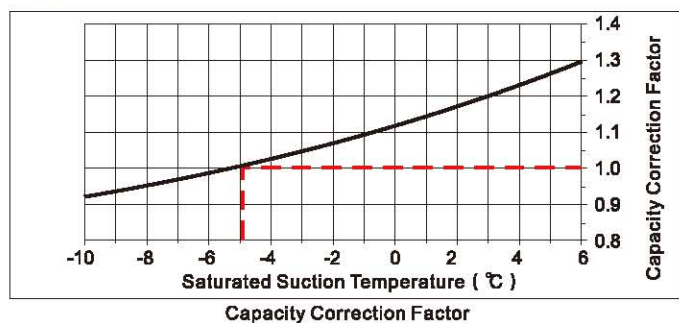


G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

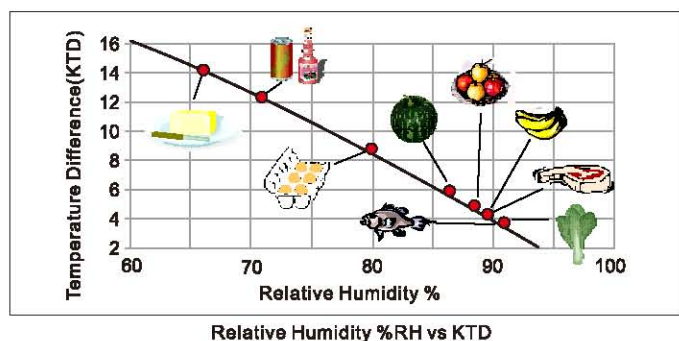
FEM-Low Profile Series Unit Cooler Specifications Air Defrost 6FPI Room Temperature +3°C

Model	Capacity (Watts)				Fan Data							
	ASHRAE		EUROVENT SC2*		No. of Fan 300mm	Fan Motor			Fan Speed	Air Flow		Air Throw (m)
	R22	R404A	R22	R404A		(V/Ph/Hz)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)	
FEM 0235	2,350	2,324	2,566	2,538	1	230/1/50	70	0.32	1380	426	1534	11.5
FEM 0303	3,030	2,997	3,309	3,273	1	230/1/50	70	0.32	1380	416	1496	11.3
FEM 0397	3,970	3,926	4,335	4,287	1	230/1/50	70	0.32	1380	398	1431	11.2
FEM 0452	4,520	4,470	4,936	4,882	1	230/1/50	70	0.32	1380	379	1366	11.0
FEM 0492	4,920	4,866	5,373	5,314	1	230/1/50	70	0.32	1380	335	1206	10.8
FEM 0590	5,900	5,835	6,443	6,372	2	230/1/50	140	0.64	1380	790	2843	12.0
FEM 0700	7,000	6,923	7,644	7,560	2	230/1/50	140	0.64	1380	777	2797	11.8
FEM 0790	7,900	7,813	8,627	8,532	2	230/1/50	140	0.64	1380	761	2740	11.5
FEM 0873	8,730	8,634	9,533	9,428	2	230/1/50	140	0.64	1380	749	2698	11.3
FEM 1095	10,950	10,830	11,957	11,825	3	230/1/50	210	0.96	1380	1150	4140	13.3
FEM 1290	12,900	12,758	14,087	13,932	3	230/1/50	210	0.96	1380	1134	4083	13.1
FEM 1350	13,500	13,352	14,742	14,580	3	230/1/50	210	0.96	1380	1085	3908	12.9
FEM 1408	14,080	13,925	15,375	15,206	4	230/1/50	280	1.28	1380	1538	5537	13.7
FEM 1510	15,100	14,934	16,489	16,308	4	230/1/50	280	1.28	1380	1523	5484	13.6
FEM 1670	16,700	16,516	18,236	18,035	4	230/1/50	280	1.28	1380	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 (°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

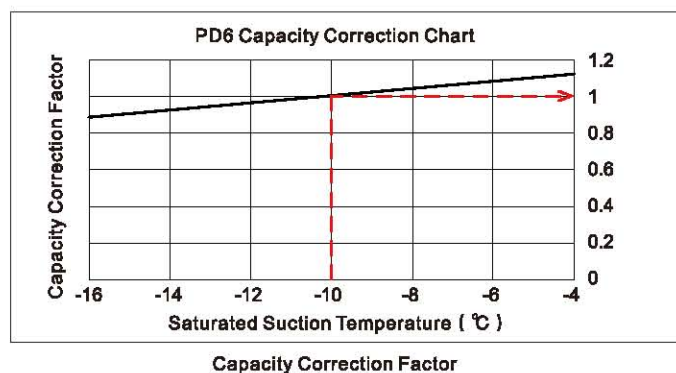
G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

FEME PD6-Low Profile Series Unit Cooler Specifications Electric Defrost 6FPI Room Temperature -4°C

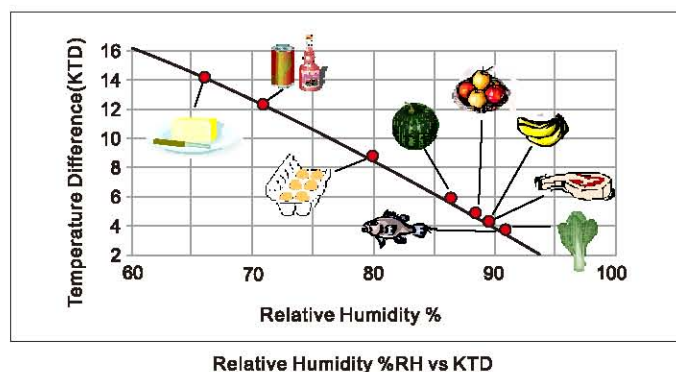
Model	Capacity (Watts)				No. of Fan 300mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coll Heater (Watts)	Drain Pan Heater (Watts)
	R22	R404A	R22	R404A		(V/Ph/Hz)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)			
	6 KTD	6 KTD	8 KTD	8 KTD										
FEME 0220 PD6	2,200	2,176	3,300	3,264	1	230/1/50	70	0.32	1380	419	1510	11.5	1×830	1×300
FEME 0310 PD6	3,100	3,066	4,650	4,599	1	230/1/50	70	0.32	1380	401	1445	11.3	1×830	1×300
FEME 0360 PD6	3,600	3,560	5,400	5,341	1	230/1/50	70	0.32	1380	383	1379	11.1	1×830	1×300
FEME 0400 PD6	4,000	3,956	6,000	5,934	2	230/1/50	140	0.64	1380	798	2870	12.0	1×1230	1×750
FEME 0480 PD6	4,800	4,747	7,200	7,121	2	230/1/50	140	0.64	1380	785	2824	12.0	1×1230	1×750
FEME 0590 PD6	5,900	5,835	8,850	8,753	2	230/1/50	140	0.64	1380	769	2766	11.8	1×1230	1×750
FEME 0700 PD6	7,000	6,923	10,500	10,385	3	230/1/50	210	0.96	1380	1162	4179	12.5	1×1780	1×750
FEME 0840 PD6	8,400	8,308	12,600	12,461	3	230/1/50	210	0.96	1380	1146	4122	12.5	1×1780	1×750
FEME 1020 PD6	10,200	10,088	15,300	15,132	4	230/1/50	280	1.28	1380	1554	5590	13.5	1×2265	1×830
FEME 1160 PD6	11,600	11,472	17,400	17,209	4	230/1/50	280	1.28	1380	1539	5535	13.5	1×2265	1×830
FEME 1340 PD6	13,400	13,253	20,100	19,879	4	230/1/50	280	1.28	1380	1520	5470	13.3	1×2265	1×830

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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)

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*EUROVENT Data is based on SC2 Nominal Capacity

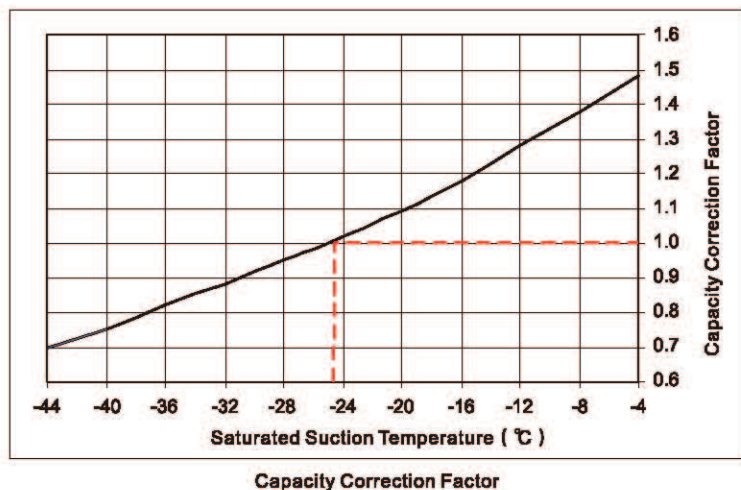
SC2 Condition - Air Inlet Temperature = 0°C and Evaporating Temperature = -8°C

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 (Watts)				No. of Fan 300mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC3*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	R22	R404A	R22	R404A		(V/Ph/Hz)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)			
	6 KTD	6 KTD	7 KTD	7 KTD										
FEME 0132	1,320	1,305	1,610	1,592	1	230/1/50	70	0.32	1380	437	1572	11.5	2×830	1×300
FEME 0178	1,780	1,760	2,172	2,148	1	230/1/50	70	0.32	1380	425	1529	11.5	2×830	1×300
FEME 0216	2,160	2,136	2,635	2,606	1	230/1/50	70	0.32	1380	398	1433	11.3	2×830	1×300
FEME 0238	2,380	2,354	2,904	2,872	2	230/1/50	140	0.64	1380	830	2989	12.0	2×1230	1×750
FEME 0290	2,900	2,868	3,538	3,499	2	230/1/50	140	0.64	1380	816	2939	12.0	2×1230	1×750
FEME 0339	3,390	3,353	4,136	4,091	2	230/1/50	140	0.64	1380	799	2877	11.8	2×1230	1×750
FEME 0395	3,950	3,907	4,819	4,766	2	230/1/50	140	0.64	1380	763	2746	12.5	2×1230	1×750
FEME 0450	4,500	4,451	5,490	5,430	3	230/1/50	210	0.96	1380	1198	4314	12.5	2×1780	1×750
FEME 0512	5,120	5,064	6,246	6,177	3	230/1/50	210	0.96	1380	1192	4291	12.5	2×1780	1×750
FEME 0585	5,850	5,786	7,137	7,058	4	230/1/50	280	1.28	1380	1616	5817	13.5	2×2265	1×830
FEME 0710	7,100	7,022	8,662	8,567	4	230/1/50	280	1.28	1380	1601	5763	13.5	2×2265	1×830
FEME 0795	7,950	7,863	9,699	9,592	4	230/1/50	280	1.28	1380	1581	5693	13.3	2×2265	1×830

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

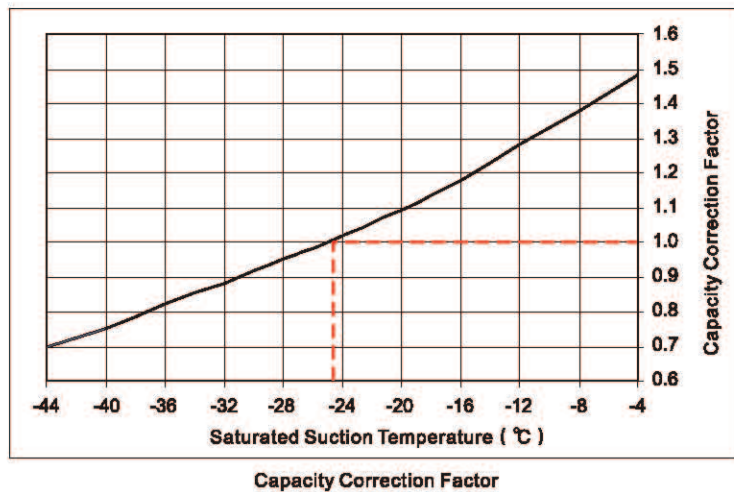
G4 Low Profile Series Unit Cooler FEM / FEME PD6 / FEME / FEME LT6

FEME LT6-Low Profile Series Unit Cooler Specifications Electric Defrost 6FPI Room Temperature -19°C

Model	Capacity (Watts)				Fan Data								Heater Data	
	ASHRAE		EUROVENT SC3*		No. of Fans 300mm	Fan Motor			Fan Speed (rpm)	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	R22	R404A	R22	R404A		(V/Ph/Hz)	(Watts)	(Amps)		(L/s)	(m³/h)			
	6 KTD	6 KTD	7 KTD	7 KTD										
FEME 0145 LT6	1,450	1,434	1,769	1,750	1	230/1/50	70	0.32	1380	392	1411	11.5	2×830	1×300
FEME 0196 LT6	1,960	1,938	2,391	2,365	1	230/1/50	70	0.32	1380	375	1350	11.5	2×830	1×300
FEME 0262 LT6	2,620	2,591	3,196	3,161	1	230/1/50	70	0.32	1380	358	1289	11.3	2×830	1×300
FEME 0317 LT6	3,170	3,135	3,867	3,824	2	230/1/50	140	0.64	1380	745	2682	12.0	2×1230	1×750
FEME 0378 LT6	3,780	3,738	4,612	4,561	2	230/1/50	140	0.64	1380	733	2639	12.0	2×1230	1×750
FEME 0413 LT6	4,130	4,085	5,039	4,984	2	230/1/50	140	0.64	1380	718	2585	11.8	2×1230	1×750
FEME 0500 LT6	5,000	4,945	6,100	6,033	3	230/1/50	210	0.96	1380	1085	3906	12.5	2×1780	1×750
FEME 0604 LT6	6,040	5,974	7,369	7,288	3	230/1/50	210	0.96	1380	1060	3816	12.5	2×1780	1×750
FEME 0672 LT6	6,720	6,646	8,198	8,108	4	230/1/50	280	1.28	1380	1451	5224	13.6	2×2265	1×830
FEME 0821 LT6	8,210	8,120	10,016	9,906	4	230/1/50	280	1.28	1380	1437	5173	13.5	2×2265	1×830
FEME 0910 LT6	9,100	9,000	11,102	10,980	4	230/1/50	280	1.28	1380	1420	5112	13.5	2×2265	1×830

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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

Technical Specifications for FEM / FEME PD6

Model	Size (mm)								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	1,427.5	-	478	321	1,684	650	595	1825	52	12.7	28.6	25.4
FEM 1290	1,427.5	-	478	321	1,684	650	595	1825	56	12.7	28.6	25.4
FEM 1350	1,427.5	-	478	321	1,684	650	595	1825	60	15.8	28.6	25.4
FEM 1408	1,827.5	913.7	478	321	2,084	650	595	2230	64	15.8	28.6	25.4
FEM 1510	1,827.5	913.7	478	321	2,084	650	595	2230	69	15.8	28.6	25.4
FEM 1670	1,827.5	913.7	478	321	2,084	650	595	2230	74	15.8	28.6	25.4
FEME 0220 PD6	627.5	-	478	321	884	650	595	1020	29	12.7	22.2	25.4
FEME 0310 PD6	627.5	-	478	321	884	650	595	1020	31	12.7	22.2	25.4
FEME 0360 PD6	627.5	-	478	321	884	650	595	1020	34	12.7	22.2	25.4
FEME 0400 PD6	927.5	-	478	321	1,186	650	595	1325	38	12.7	22.2	25.4
FEME 0480 PD6	927.5	-	478	321	1,186	650	595	1325	40	12.7	28.6	25.4
FEME 0590 PD6	927.5	-	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	74	15.8	28.6	25.4

* Packed Dimensions / Weight

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

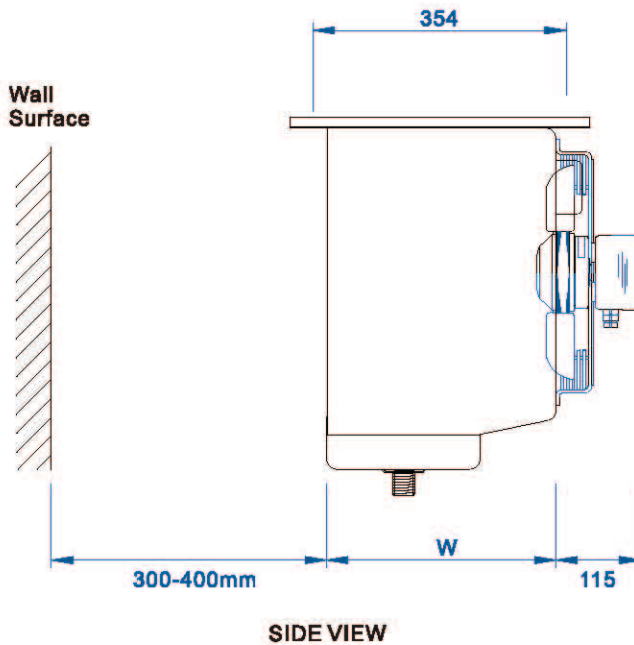
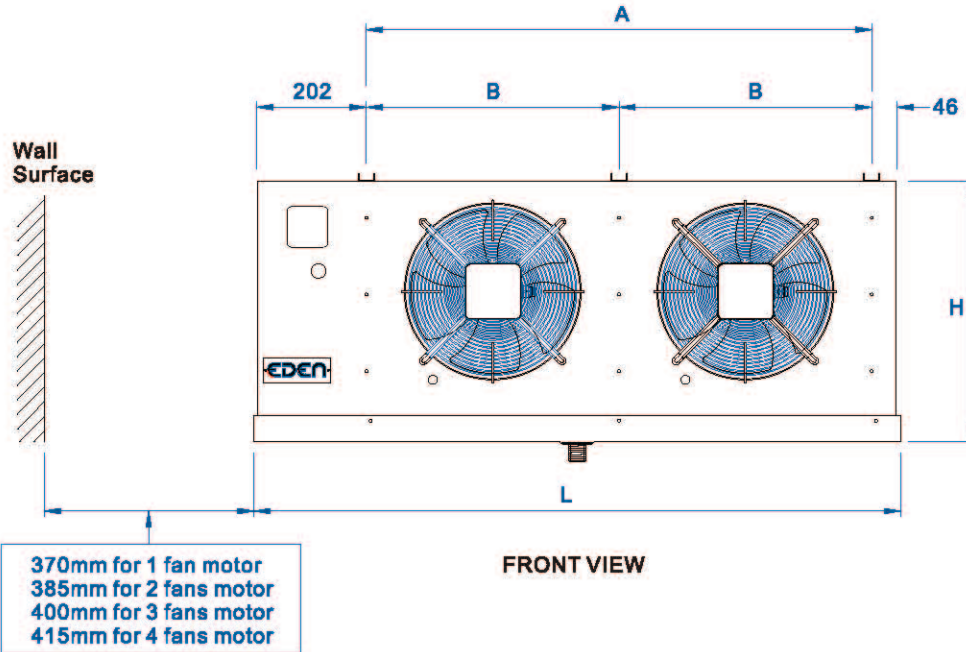
Technical Specifications for FEME / FEME LT6

Model	Size (mm)								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	1,427.5	-	478	321	1,684	650	595	1,825	53	12.7	28.6	25.4
FEME 0512	1,427.5	-	478	321	1,684	650	595	1,825	56	12.7	28.6	25.4
FEME 0585	1,827.5	913.7	478	321	2,084	650	595	2,230	64	15.8	28.6	25.4
FEME 0710	1,827.5	913.7	478	321	2,084	650	595	2,230	68	15.8	28.6	25.4
FEME 0795	1,827.5	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	1,427.5	-	478	321	1,684	650	595	1,825	53	12.7	28.6	25.4
FEME 0604 LT6	1,427.5	-	478	321	1,684	650	595	1,825	57	15.8	28.6	25.4
FEME 0672 LT6	1,827.5	913.7	478	321	2,084	650	595	2,230	64	15.8	28.6	25.4
FEME 0821 LT6	1,827.5	913.7	478	321	2,084	650	595	2,230	69	15.8	28.6	25.4
FEME 0910 LT6	1,827.5	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 Approximately 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.



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