

G4 ULTRA LOW PROFILE UNIT COOLER

EDEN[®]
The Cool Solution



UPM - Medium Temperature Application
Capacity: 2.74kW to 15.10kW

UPM PD6 - Partial Defrost Application
(Room Temp: +2°C to -6°C)
Capacity: 2.82kW to 11.87kW

UPL - Low Temperature Application
Capacity: 1.45kW to 7.48kW

UPL LT6 - Low Temperature Application (6FPI)
Capacity: 2.25kW to 9.73kW

Effective Air Throw: 12.0m to 14.5m

G4 Ultra Low Profile Series Unit Cooler

UPM / UPM PD6 / UPL / UPL 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.

Compact design reduces unit cooler volume to enhance cold room productivity by not giving up the capacity.

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).

Options

- a) Copper-Fins Coil (Available only for 6FPI models)
- b) Epoxy-Coated Aluminum Fin Coil (Only on large volume orders)
- c) Passivated Corrosion Protection For All Aluminum Fin Products
- d) Hot Gas Bypass



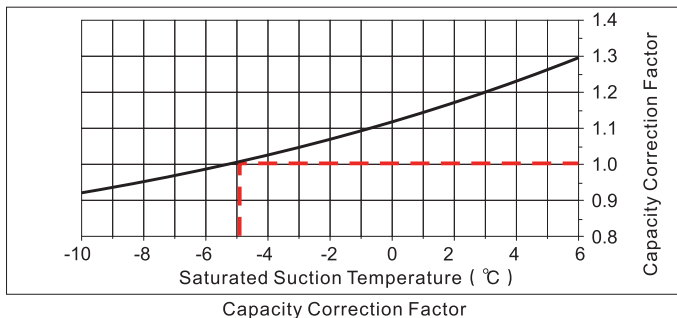
G4 Ultra Low Profile Series Unit Cooler UPM / UPM PD6 / UPL / UPL LT6

UPM - Ultra Low Profile Series Unit Cooler Specifications

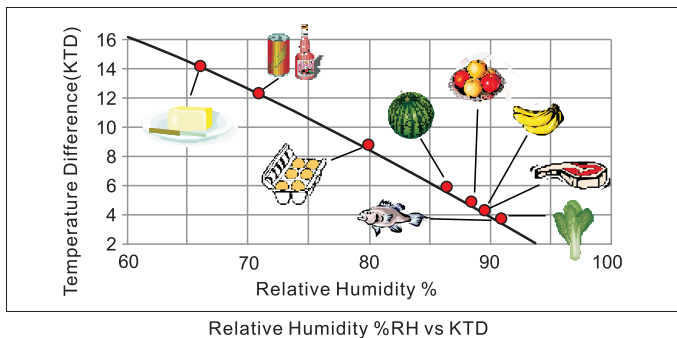
Air Defrost 6FPI Room Temperature +3°C

Model	Capacity R22				No. of Fan 250mm	Fan Data						
	ASHRAE		EUROVENT SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)	
8 KTD	14.4 FTD	8 KTD	14.4 FTD									
UPM 0274	2,740	9,349	2,993	10,214	2	230/1/50	84	0.38	1,400	636	2,287	12.9
UPM 0380	3,800	12,966	4,152	14,166	2	230/1/50	84	0.38	1,400	620	2,231	12.7
UPM 0465	4,650	15,866	5,080	17,334	2	230/1/50	84	0.38	1,400	594	2,138	12.5
UPM 0570	5,700	19,449	6,227	21,248	2	230/1/50	84	0.38	1,400	569	2,046	12.2
UPM 0623	6,230	21,258	6,806	23,224	2	230/1/50	84	0.38	1,400	542	1,948	12.0
UPM 0735	7,350	25,079	8,030	27,399	3	230/1/50	126	0.57	1,400	978	3,520	14.1
UPM 0851	8,510	29,037	9,297	31,723	3	230/1/50	126	0.57	1,400	963	3,463	13.9
UPM 0947	9,470	32,313	10,346	35,302	3	230/1/50	126	0.57	1,400	956	3,440	13.7
UPM 1172	11,720	39,990	12,804	43,689	4	230/1/50	168	0.76	1,400	1,308	4,705	14.4
UPM 1320	13,200	45,040	14,421	49,206	4	230/1/50	168	0.76	1,400	1,293	4,650	14.2
UPM 1510	15,100	51,523	16,497	56,289	5	230/1/50	210	0.95	1,400	1,685	6,062	14.5

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
R407F	1.00



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

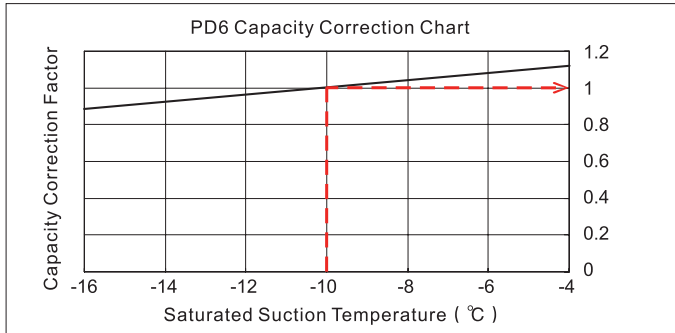
SC2 Condition - Air Inlet Temperature = 0°C and Evaporating Temperature = -8°C

G4 Ultra Low Profile Series Unit Cooler UPM / UPM PD6 / UPL / UPL LT6

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

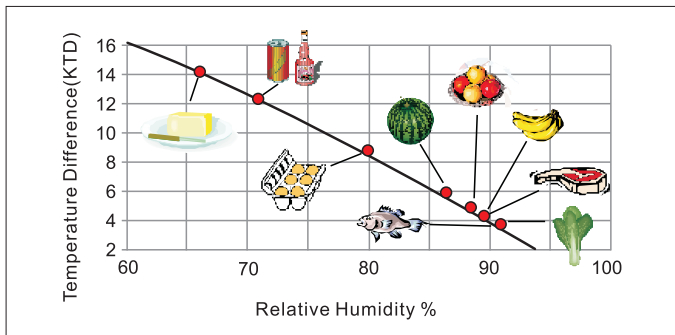
Model	Capacity R22				No. of Fan 250mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)			
6 KTD	10.8 FTD	8 KTD	14.4 FTD											
UPM 0282 PD6	2,820	9,622	4,315	14,722	2	230/1/50	84	0.38	1,400	614	2,210	13.0	1x1218	1x750
UPM 0343 PD6	3,430	11,704	5,248	17,907	2	230/1/50	84	0.38	1,400	600	2,158	12.8	1x1218	1x750
UPM 0428 PD6	4,280	14,604	6,548	22,344	2	230/1/50	84	0.38	1,400	575	2,068	12.7	1x1218	1x750
UPM 0477 PD6	4,770	16,276	7,298	24,902	2	230/1/50	84	0.38	1,400	562	2,022	12.5	1x1218	1x750
UPM 0533 PD6	5,330	18,187	8,155	27,826	3	230/1/50	126	0.57	1,400	949	3,412	13.5	1x1710	1x750
UPM 0624 PD6	6,240	21,292	9,547	32,576	3	230/1/50	126	0.57	1,400	930	3,346	13.3	1x1710	1x750
UPM 0710 PD6	7,100	24,226	10,863	37,066	3	230/1/50	126	0.57	1,400	919	3,306	13.0	1x1710	1x750
UPM 0855 PD6	8,550	29,174	13,082	44,636	4	230/1/50	168	0.76	1,400	1,253	4,509	13.8	1x2256	1x750
UPM 0954 PD6	9,540	32,552	14,596	49,804	4	230/1/50	168	0.76	1,400	1,241	4,464	13.6	1x2256	1x750
UPM 1187 PD6	11,870	40,502	18,161	61,968	5	230/1/50	210	0.95	1,400	1,601	5,759	14.0	1x2800	1x920

Application & Correction Factor Guideline



Capacity Correction Factor

Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.95
R407C	0.93
R134A	0.975
R404A	0.989
R507	0.989
R407F	1.00



Relative Humidity %RH vs KTD

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 Ultra Low Profile Series Unit Cooler

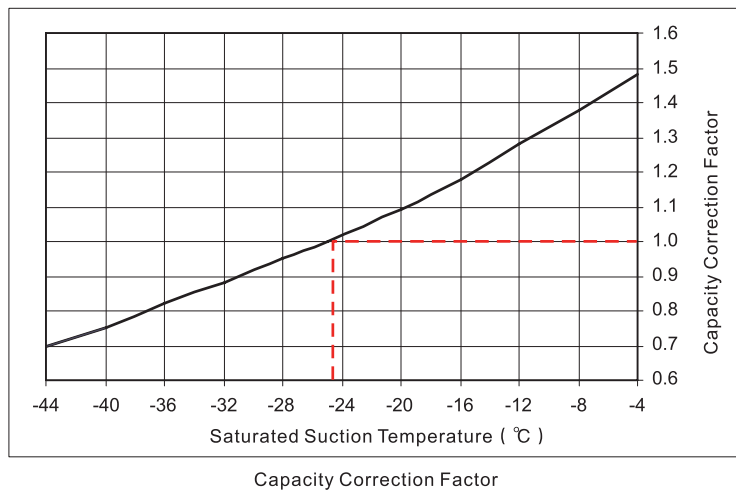
UPM / UPM PD6 / UPL / UPL LT6

UPL - Ultra Low Profile Series Unit Cooler Specifications

Electric Defrost 4FPI Room Temperature -19°C

Model	Capacity R22				No. of Fan 250mm	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)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)			
	6 KTD	10.8 FTD	7 KTD	12.6 FTD										
UPL 0145	1,450	4,948	1,776	6,061	2	230/1/50	84	0.38	1,400	461	1,659	13.1	1x1218	1x750
UPL 0177	1,770	6,039	2,168	7,398	2	230/1/50	84	0.38	1,400	454	1,631	13.0	1x1218	1x750
UPL 0209	2,090	7,131	2,560	8,736	2	230/1/50	84	0.38	1,400	444	1,598	12.9	1x1218	1x750
UPL 0255	2,550	8,701	3,124	10,659	2	230/1/50	84	0.38	1,400	424	1,525	12.7	1x1218	1x750
UPL 0296	2,960	10,100	3,626	12,372	3	230/1/50	126	0.57	1,400	1,068	3,841	13.5	1x1710	1x750
UPL 0364	3,640	12,420	4,459	15,215	3	230/1/50	126	0.57	1,400	1,055	3,796	13.3	1x1710	1x750
UPL 0412	4,120	14,058	5,047	17,221	3	230/1/50	126	0.57	1,400	1,050	3,777	13.2	1x1710	1x750
UPL 0483	4,830	16,481	5,917	20,189	4	230/1/50	168	0.76	1,400	1,385	4,981	13.8	1x2256	1x750
UPL 0565	5,650	19,279	6,921	23,616	4	230/1/50	168	0.76	1,400	1,358	4,885	13.6	1x2256	1x750
UPL 0655	6,550	22,350	8,024	27,378	5	230/1/50	210	0.95	1,400	1,760	6,333	14.2	1x2800	1x920
UPL 0748	7,480	25,523	9,163	31,265	5	230/1/50	210	0.95	1,400	1,756	6,316	14.0	1x2800	1x920

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
R407F	1.00

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 Ultra Low Profile Series Unit Cooler

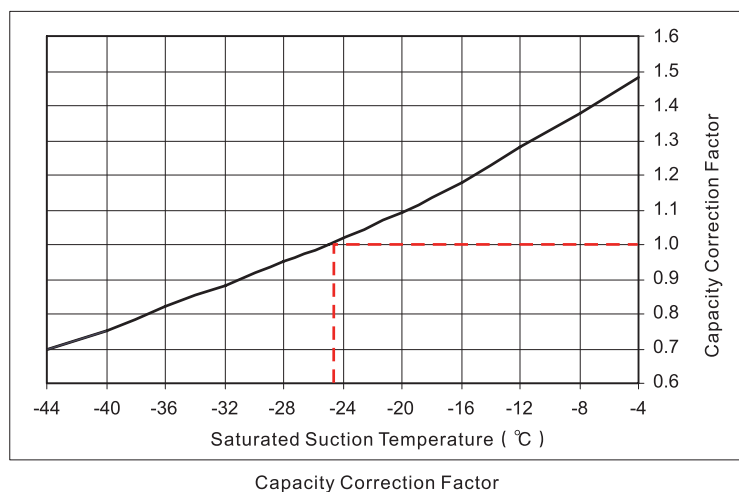
UPM / UPM PD6 / UPL / UPL LT6

UPL LT6 - Ultra Low Profile Series Unit Cooler Specifications

Electric Defrost 6FPI Room Temperature -19°C

Model	Capacity R22				No. of Fans 250mm	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)	(Watts)	(Amps)	(rpm)	(L/s)	(m³/h)			
UPL 0225 LT6	2,250	7,677	2,756	9,405	2	230/1/50	84	0.38	1,400	462	1,661	13.4	1x1218	1x750
UPL 0271 LT6	2,710	9,247	3,320	11,327	2	230/1/50	84	0.38	1,400	457	1,643	13.2	1x1218	1x750
UPL 0330 LT6	3,300	11,260	4,043	13,794	2	230/1/50	84	0.38	1,400	449	1,613	13.0	1x1218	1x750
UPL 0453 LT6	4,530	15,457	5,549	18,935	3	230/1/50	126	0.57	1,400	1,190	4,281	13.8	1x1710	1x750
UPL 0524 LT6	5,240	17,880	6,419	21,903	3	230/1/50	126	0.57	1,400	1,166	4,196	13.6	1x1710	1x750
UPL 0616 LT6	6,160	21,019	7,546	25,748	4	230/1/50	168	0.76	1,400	1,406	5,056	14.0	1x2256	1x750
UPL 0718 LT6	7,180	24,499	8,796	30,011	4	230/1/50	168	0.76	1,400	1,426	5,130	13.2	1x2256	1x750
UPL 0973 LT6	9,730	33,200	11,919	40,670	5	230/1/50	210	0.95	1,400	1,830	6,584	14.3	1x2800	1x920

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 Ultra Low Profile Series Unit Cooler

UPM / UPM PD6 / UPL / UPL LT6

Technical Specification

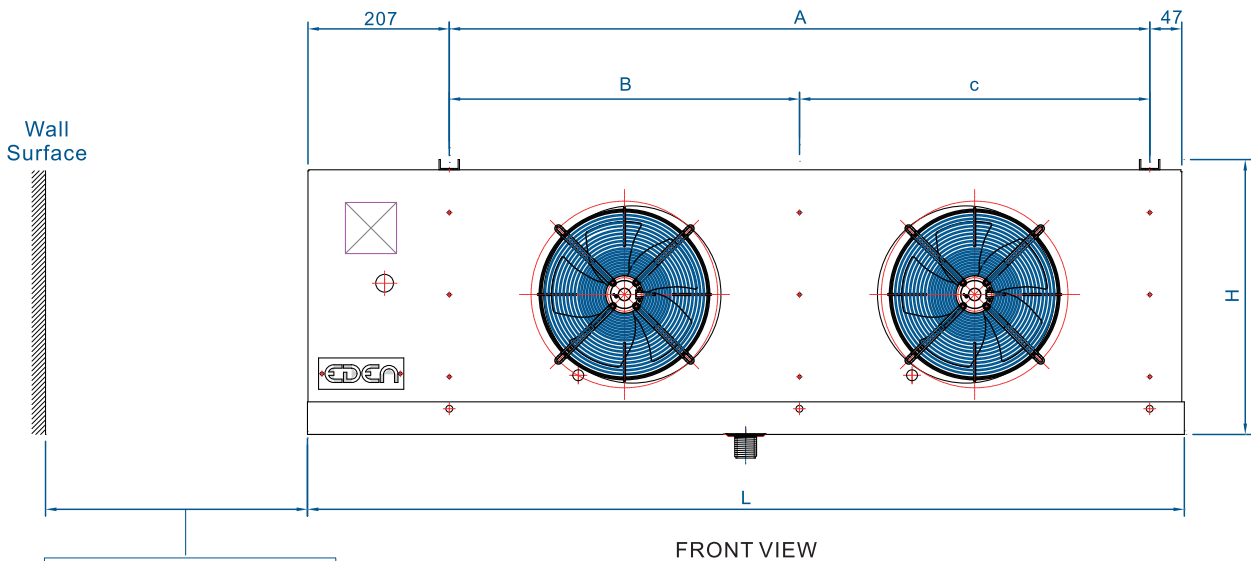
Model	Size (mm)									Nett Weight (kg)	Weight (kg)*	Liquid Connection (mm)	Suction Connection (mm)	Drain Pipe (mm)
	A	B	C	H	W	L	H*	W*	L*					
UPM 0274	1,028	-	-	406	255	1,286	575	480	1,390	17.4	32.3	12.7	22.2	25.4
UPM 0380	1,028	-	-	406	255	1,286	575	480	1,390	20.0	34.7	12.7	22.2	25.4
UPM 0465	1,028	-	-	406	255	1,286	575	480	1,390	22.5	37.0	12.7	22.2	25.4
UPM 0570	1,028	-	-	406	255	1,286	575	480	1,390	25.0	39.4	12.7	28.6	25.4
UPM 0623	1,028	-	-	406	255	1,286	575	480	1,390	27.5	41.8	12.7	28.6	25.4
UPM 0735	1,528	-	-	406	255	1,786	575	480	1,890	32.0	49.3	12.7	28.6	25.4
UPM 0851	1,528	-	-	406	255	1,786	575	480	1,890	35.7	52.9	12.7	28.6	25.4
UPM 0947	1,528	-	-	406	255	1,786	575	480	1,890	39.4	56.4	12.7	28.6	25.4
UPM 1172	2,027	1,014	1,014	406	255	2,286	575	480	2,390	41.4	66.3	12.7	28.6	25.4
UPM 1320	2,027	1,014	1,014	406	255	2,286	575	480	2,390	51.3	71.0	15.9	28.6	25.4
UPM 1510	2,527	1,011	1,516	406	255	2,786	575	480	2,890	63.2	85.5	15.9	28.6	25.4
UPM 0282 PD6	1,028	-	-	406	255	1,286	575	480	1,390	20.0	34.7	12.7	22.2	25.4
UPM 0343 PD6	1,028	-	-	406	255	1,286	575	480	1,390	22.5	37.0	12.7	22.2	25.4
UPM 0428 PD6	1,028	-	-	406	255	1,286	575	480	1,390	25.0	39.4	12.7	22.2	25.4
UPM 0477 PD6	1,028	-	-	406	255	1,286	575	480	1,390	27.5	41.8	12.7	28.6	25.4
UPM 0533 PD6	1,528	-	-	406	255	1,786	575	480	1,890	32.0	49.3	12.7	28.6	25.4
UPM 0624 PD6	1,528	-	-	406	255	1,786	575	480	1,890	35.7	52.9	12.7	28.6	25.4
UPM 0710 PD6	1,528	-	-	406	255	1,786	575	480	1,890	39.4	56.4	12.7	28.6	25.4
UPM 0855 PD6	2,027	1,014	1,014	406	255	2,286	575	480	2,390	46.4	66.3	12.7	28.6	25.4
UPM 0954 PD6	2,027	1,014	1,014	406	255	2,286	575	480	2,390	51.3	71.0	15.9	28.6	25.4
UPM 1187 PD6	2,527	1,011	1,516	406	255	2,786	575	480	2,890	63.2	85.5	15.9	28.6	25.4
UPL 0145	1,028	-	-	406	255	1,286	575	480	1,390	19.8	34.5	12.7	22.2	25.4
UPL 0177	1,028	-	-	406	255	1,286	575	480	1,390	22.2	36.8	12.7	22.2	25.4
UPL 0209	1,028	-	-	406	255	1,286	575	480	1,390	24.7	39.1	12.7	22.2	25.4
UPL 0255	1,028	-	-	406	255	1,286	575	480	1,390	27.2	41.4	12.7	22.2	25.4
UPL 0296	1,528	-	-	406	255	1,786	575	480	1,890	31.6	49.0	12.7	28.6	25.4
UPL 0364	1,528	-	-	406	255	1,786	575	480	1,890	35.2	52.4	12.7	28.6	25.4
UPL 0412	1,528	-	-	406	255	1,786	575	480	1,890	38.9	55.9	12.7	28.6	25.4
UPL 0483	2,027	1,014	1,014	406	255	2,286	575	480	2,390	45.8	65.7	12.7	28.6	25.4
UPL 0565	2,027	1,014	1,014	406	255	2,286	575	480	2,390	50.6	70.3	15.9	28.6	25.4
UPL 0655	2,527	1,011	1,516	406	255	2,786	575	480	2,890	56.3	79.0	15.9	28.6	25.4
UPL 0748	2,527	1,011	1,516	406	255	2,786	575	480	2,890	62.3	84.7	15.9	28.6	25.4
UPL 0225 LT6	1,028	-	-	406	255	1,286	575	480	1,390	21.1	35.7	12.7	22.2	25.4
UPL 0271 LT6	1,028	-	-	406	255	1,286	575	480	1,390	24.0	38.5	12.7	28.6	25.4
UPL 0330 LT6	1,028	-	-	406	255	1,286	575	480	1,390	29.8	43.9	12.7	28.6	25.4
UPL 0453 LT6	1,528	-	-	406	255	1,786	575	480	1,890	38.6	55.6	12.7	28.6	25.4
UPL 0524 LT6	1,528	-	-	406	255	1,786	575	480	1,890	42.8	59.6	12.7	28.6	25.4
UPL 0616 LT6	2,027	1,014	1,014	406	255	2,286	575	480	2,390	50.2	69.9	12.7	28.6	25.4
UPL 0718 LT6	2,027	1,014	1,014	406	255	2,286	575	480	2,390	55.9	75.3	12.7	28.6	25.4
UPL 0973 LT6	2,527	1,011	1,516	406	255	2,786	575	480	2,890	61.8	84.3	12.7	28.6	25.4

* Packed Dimensions / Weight

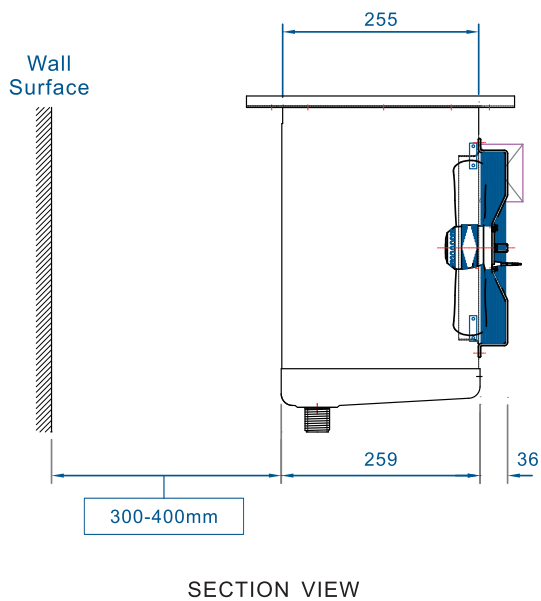
G4 Ultra Low Profile Series Unit Cooler

UPM / UPM PD6 / UPL / UPL LT6

Installation Guide for UPM / UPM PD6 / UPL / UPL LT6



370mm for 1 fan motor
385mm for 2 fans motor
400mm for 3 fans motor
415mm for 4 fans motor



G4 Ultra Low Profile Series Unit Cooler UPM / UPM PD6 / UPL / UPL LT6

ADDITIONAL INFORMATION

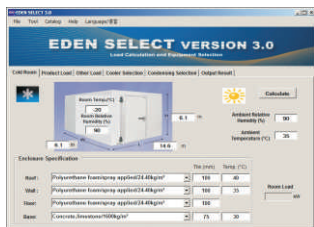
Example:

Application: Apple Cooler
Required Room Temperature: 1.5°C
Ambient: +35°C
Evaporating Temperature: -3.5°C at 5KTD (Recommended)
Cooling Capacity: 2.8kW (Inclusive of the Fan and Heater load)
Type of Refrigerant: R404A

Selection of the Eden G4 Unit Cooler as follow:

1. Determine the Correction Factor and Multiplier (Refers to page 2)
 - a. Capacity Correction Factor is approx.1.04
 - b. Refrigerant multiplier = 0.989
2. Calculation of required capacity:
 - a. $2.8\text{kW} / 1.04 / 0.989 = 2.72\text{kW}$ (Inclusive of the Fan and Heater load)
3. Calculate the unit cooler capacity needed at 5KTD:
 - a. $2.72\text{kW} \times 8 / 5 = 4.35\text{kW}$
4. Hence **UPM 0465** 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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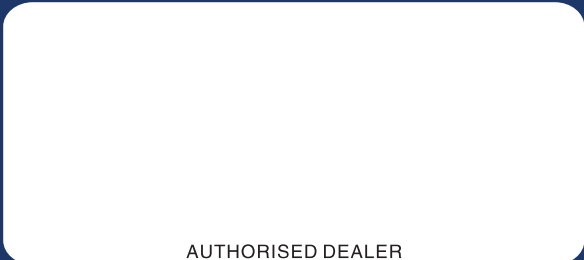




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