

G4 HEAVY DUTY UNIT COOLER

EDEN[®]
The Cool Solution



FNX - Medium Temperature Application
Capacity: 24.8kW to 99.5kW

FLX PD6 - Partial Defrost Application
(Room Temp 0°C to -14°C)
Capacity: 18.5kW to 68.7kW

FLX - Low Temperature Application
Capacity: 12.8kW to 50.3kW

FLX SG - Ultra Low Temperature Application
Capacity: 30.0kW to 45.0kW

FLX SB - Semi Blast Freezing Application
Capacity: 30.7kW to 46.0kW

Effective Air Throw: 32m to 38m

G4 Heavy Duty Profile Series Unit Cooler FNX / FLX PD6 / FLX / FLX SG / FLX SB

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 capacity with a smaller physical unit cooler dimension.

Casing comes in high quality powder coated Aluminum, according to AA1100 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 motors, fitted with thermistor motor protection and conform to DIN 40050 safety standards. Fan motors are of the highest quality offered in 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 all Eden products are designed, manufactured and tested in our factories that are ISO 9001:2000 accredited.

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

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 Aluminum Fins
- 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



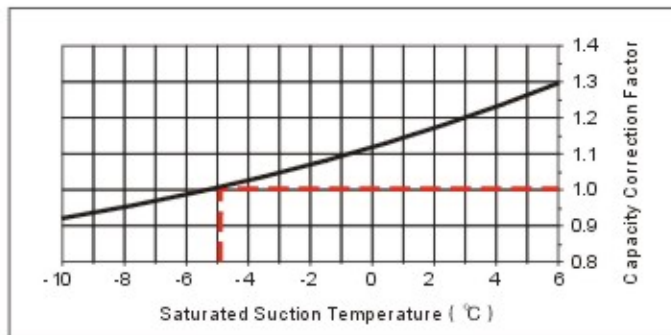
G4 Heavy Duty Profile Series Unit Cooler FNX / FLX PD6 / FLX / FLX SG / FLX SB

FNX - Medium Temperature Unit Cooler Specifications

Air Defrost 6FPI Room Temperature +3°C

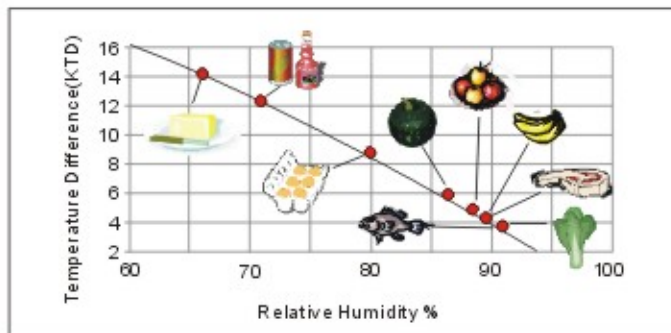
Model	Capacity for R22				No of Fan 630mm	Fan Data						
	ASHRAE		EUROVENT SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(Watts)	(Amps)	(Rpm)	(L/s)	(m/h)	
	8 KTD	14.4 FTD	8 KTD	14.4 FTD								
FNX 2480	24,800	84,618	27,094	92,445	1	400/3/50	660	1.3	870	2,634	9,483	32
FNX 2870	28,700	97,924	31,355	106,983	1	400/3/50	660	1.3	870	2,549	9,177	32
FNX 3280	32,800	111,913	35,834	122,266	1	400/3/50	660	1.3	870	2,438	8,777	32
FNX 4920	49,200	167,870	53,751	183,398	2	400/3/50	1,320	2.6	870	5,297	19,069	34
FNX 6160	61,600	210,179	67,298	229,621	2	400/3/50	1,320	2.6	870	5,194	18,698	34
FNX 7120	71,200	242,934	77,786	265,406	2	400/3/50	1,320	2.6	870	5,046	18,164	34
FNX 8250	82,500	281,490	90,131	307,527	3	400/3/50	1,980	3.9	870	7,685	27,666	35
FNX 9120	91,200	311,174	99,636	339,958	3	400/3/50	1,980	3.9	870	7,563	27,227	35
FNX 9950	99,500	339,494	108,704	370,898	3	400/3/50	1,980	3.9	870	7,453	26,831	35

Application & Correction Factor Guideline



Capacity Correction Factor

Refrigerant	Capacity Multiplier
R22	1.00
R407 B	0.93
R407 C	0.90
R134a	0.95
R404a	0.97
R507	0.97



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)

*EUROVENT Data is used for Reference or Comparison Purposes

*EUROVENT Data is based on SC2 Nominal Capacity.(FNX & FLX PD6)

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

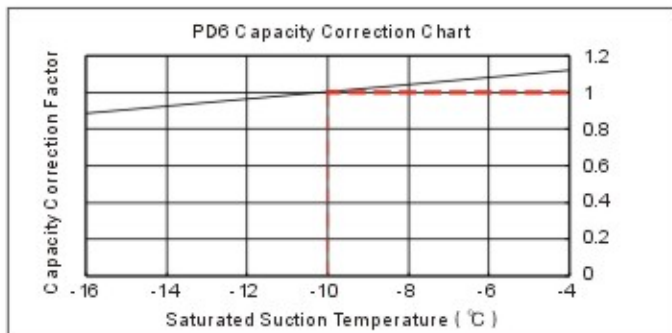
G4 Heavy Duty Profile Series Unit Cooler FNX / FLX PD6 / FLX / FLX SG / FLX SB

FLX PD6 - Partial Defrost Temperature Unit Cooler Specifications

Electric Defrost 6FPI Room Temperature -4°C

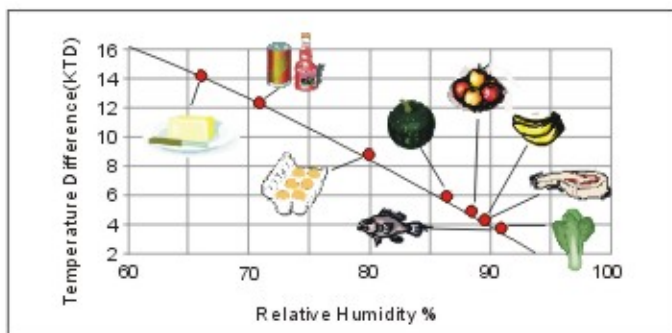
Model	Capacity for R22				No of Fan 630mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC2*			Fan Motor			Fan Speed	Air Flow		Air Throw (m)	Coil Heater (Watts)	Drain Pan Heater (Watts)
	Watts	Btu/hr	Watts	Btu/hr		(V/Ph/Hz)	(Watts)	(Amps)	(Rpm)	(L/s)	(m ³ /h)			
	6 KTD	10.8 FTD	8 KTD	14.4 FTD										
FLX 1850 PD6	18,500	63,122	27,750	94,683	1	400/3/50	660	1.3	870	2,634	9,483	32	3×1,350	1×675
FLX 2590 PD6	25,900	88,371	38,850	132,556	1	400/3/50	660	1.3	870	2,549	9,177	32	3×1,350	1×675
FLX 3010 PD6	30,100	102,701	45,150	154,052	1	400/3/50	660	1.3	870	2,438	8,777	32	3×1,350	1×675
FLX 3850 PD6	38,500	131,362	57,750	197,043	2	400/3/50	1,320	2.6	870	5,297	19,069	34	3×3,150	1×675
FLX 4260 PD6	42,600	145,351	63,900	218,027	2	400/3/50	1,320	2.6	870	5,194	18,698	34	3×3,150	1×675
FLX 5100 PD6	51,000	174,012	76,500	261,018	2	400/3/50	1,320	2.6	870	5,046	18,164	34	3×3,150	1×675
FLX 6030 PD6	60,300	205,744	90,450	308,615	3	400/3/50	1,980	3.9	870	7,685	27,666	35	3×4,050	1×900
FLX 6870 PD6	68,700	234,404	103,050	351,607	3	400/3/50	1,980	3.9	870	7,563	27,227	35	3×4,050	1×900

Application & Correction Factor Guideline



Capacity Correction Factor

Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.93
R407C	0.90
R134a	0.95
R404a	0.97
R507	0.97



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%
Water melon	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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*EUR OVENT Data is based on SC2 Nominal Capacity.(FNX & FLX PD6)

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

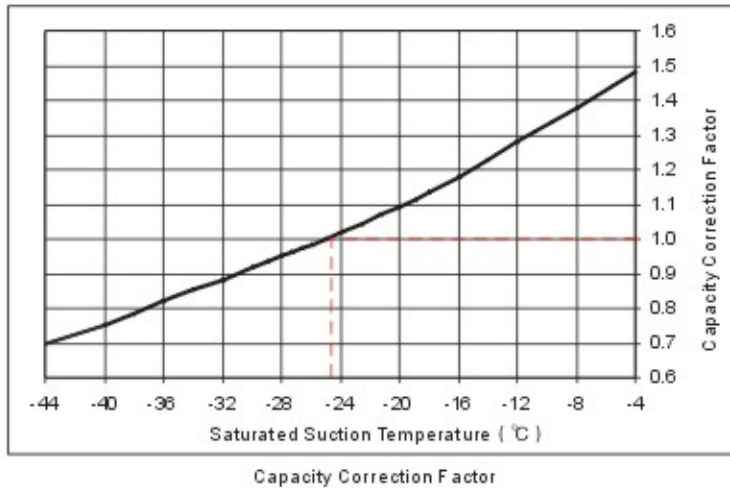
G4 Heavy Duty Profile Series Unit Cooler FNX / FLX PD6 / FLX / FLX SG / FLX SB

FLX - Low Temperature Unit Cooler Specifications

Electric Defrost 4FPI Room Temperature -19°C

Model	Capacity for R22				No of Fan 630mm	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)	(m ³ /h)			
	6 KTD	10.8 FTD	7 KTD	12.6 FTD										
FLX 1280	12,800	43,674	15,616	53,282	1	400/3/50	660	1.3	870	2,904	10,456	32	5×1,350	1×675
FLX 1650	16,500	56,298	20,130	68,684	1	400/3/50	660	1.3	870	2,793	10,055	32	5×1,350	1×675
FLX 1870	18,700	63,804	22,814	77,841	1	400/3/50	660	1.3	870	2,634	9,483	32	5×1,350	1×675
FLX 2410	24,100	82,229	29,402	100,320	2	400/3/50	1,320	2.6	870	5,819	20,950	34	5×3,150	1×675
FLX 2850	28,500	97,242	34,770	118,635	2	400/3/50	1,320	2.6	870	5,671	20,416	34	5×3,150	1×675
FLX 3220	32,200	109,866	39,284	134,037	2	400/3/50	1,320	2.6	870	5,533	19,920	34	5×3,150	1×675
FLX 3980	39,800	135,798	48,556	165,673	3	400/3/50	1,980	3.9	870	8,538	30,738	35	5×4,050	1×900
FLX 4610	46,100	157,293	56,242	191,898	3	400/3/50	1,980	3.9	870	8,353	30,070	35	5×4,050	1×900
FLX 5030	50,300	171,624	61,366	209,381	3	400/3/50	1,980	3.9	870	8,325	29,970	36	5×4,050	1×900

Application & Correction Factor Guideline



Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.93
R407C	0.90
R134a	0.95
R404a	0.97
R507	0.97

Capacity Ratings & Conditions

All Eden Heat Exchangers are tested in Accordance to ASHRAE Dry Box Standards.
(Recommended for Asia Usage)

*EUROVENT Data is used for Reference or Comparison Purposes

*EUROVENT Data is based on SC3 Nominal Capacity.(FLX)

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

G4 Heavy Duty Profile Series Unit Cooler

FNX / FLX PD6 / FLX / FLX SG / FLX SB

FLX SG Ultra Low Temperature Unit Cooler Specifications

Electric Defrost Staggered Fin 2FPI / 4FPI Room Temperature -24°C

Model	Capacity R22				No of Fan 630mm	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)	(m/h)			
	6 KTD	10.8 FTD	7 KTD	12.6 FTD										
FLX 3000 SG	30,000	102,360	36,600	124,879	2	400/3/50	1,320	2.6	870	5,675	20,430	34	5×3,150	1×675
FLX 3600 SG	36,000	122,832	43,920	149,855	3	400/3/50	1,980	3.9	870	8,520	30,672	35	5×4,050	1×900
FLX 4500 SG	45,000	153,540	54,900	187,319	3	400/3/50	1,980	3.9	870	8,496	30,586	35	5×4,050	1×900

SST	-30°C	-35°C	-40°C	-45°C
Factor	1	0.92	0.79	0.7

Correction Factor Guideline (FLX SG)

FLX SB Semi Blast Freezing Unit Cooler Specifications

Electric Defrost Staggered Fin 2FPI / 4FPI Room Temperature -30°C

Model	Capacity R22				No of Fan 630mm	Fan Data						Heater Data		
	ASHRAE		EUROVENT SC4*			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)	(m/h)			
	5 KTD	9 FTD	6 KTD	10.8 FTD										
FLX 3070 SB	30,700	104,748	38,150	130,169	2	400/3/50	5,200	9.6	1310	13,355	48,077	36	5×3,150	1×675
FLX 3680 SB	36,800	125,562	46,619	159,063	3	400/3/50	7,800	14.4	1310	20,032	72,115	38	5×4,050	1×900
FLX 4600 SB	46,000	156,952	58,273	198,829	3	400/3/50	7,800	14.4	1310	19,989	71,960	38	5×4,050	1×900

SST	-35°C	-40°C	-45°C	-50°C
Factor	1	0.85	0.75	0.66

Correction Factor Guideline (FLX SB)

Refrigerant	Capacity Multiplier
R22	1.00
R407B	0.93
R407C	0.90
R134a	0.95
R404a	0.97
R507	0.97

Capacity Multiplier Chart (FLX SG / FLX SB)

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 Reference or Comparison Purposes

*EUROVENT Data is based on SC3 Nominal Capacity (FLX SG)

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

*EUROVENT Data is based on SC4 Nominal Capacity (FLX SB)

SC4 Condition - Air Inlet Temperature = -25°C and Evaporating Temperature = -31°C

G4 Heavy Duty Profile Series Unit Cooler

FNX / FLX PD6 / FLX / FLX SG / FLX SB

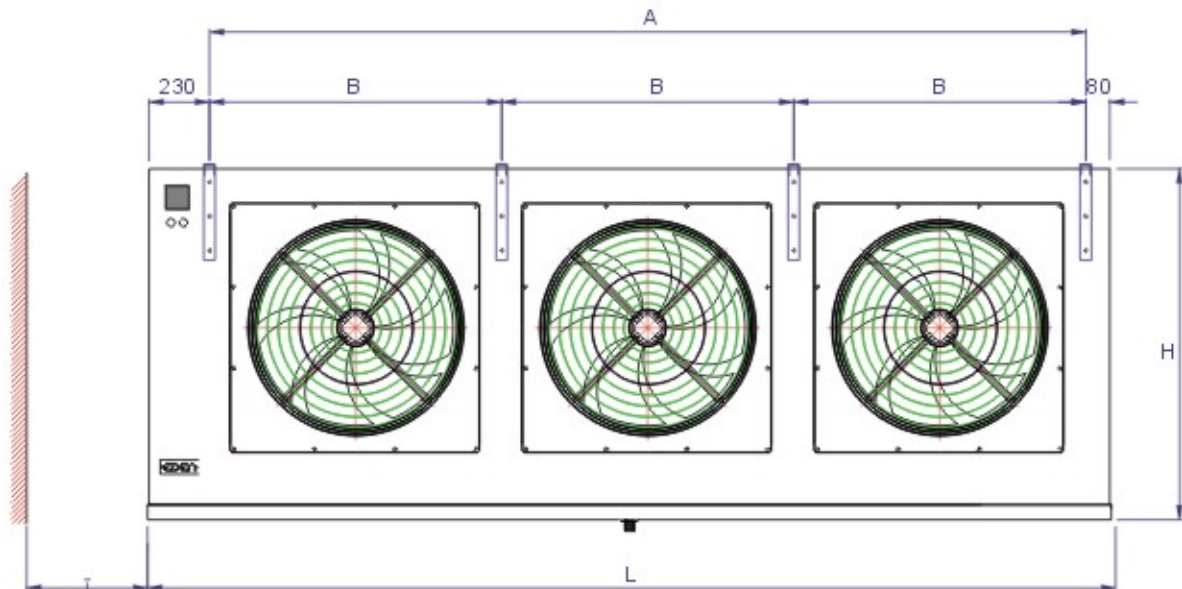
Technical Specifications

Model	SIZE								Weight (kg)*	Liquid Connection (mm)	Suction Connection (mm)	B.S.P 1" Thread Drain Pipe (mm)
	A	B	H	W	L	H*	W*	L*				
FNX 2480	1,125	-	1,140	425	1,438	1,315	850	1,700	140	15.8	28.6	25.4
FNX 2870	1,125	-	1,140	425	1,438	1,315	850	1,700	151	15.8	34.9	25.4
FNX 3280	1,125	-	1,140	425	1,438	1,315	850	1,700	161	19.0	34.9	25.4
FNX 4920	2,125	1,063	1,140	425	2,438	1,315	850	2,700	246	19.0	34.9	25.4
FNX 6160	2,125	1,063	1,140	425	2,438	1,315	850	2,700	266	22.2	41.3	25.4
FNX 7120	2,125	1,063	1,140	425	2,438	1,315	850	2,700	286	22.2	41.3	25.4
FNX 8250	2,825	942	1,140	425	3,138	1,315	850	3,400	364	28.6	41.3	25.4
FNX 9120	2,825	942	1,140	425	3,138	1,315	850	3,400	391	28.6	41.3	25.4
FNX 9950	2,825	942	1,206	425	3,138	1,415	850	3,400	403	28.6	41.3	25.4
FLX 1850 PD6	1,125	-	1,140	425	1,438	1,315	850	1,700	140	15.8	28.6	25.4
FLX 2590 PD6	1,125	-	1,140	425	1,438	1,315	850	1,700	151	15.8	34.9	25.4
FLX 3010 PD6	1,125	-	1,140	425	1,438	1,315	850	1,700	161	19.0	34.9	25.4
FLX 3850 PD6	2,125	1,063	1,140	425	2,438	1,315	850	2,700	246	19.0	41.3	25.4
FLX 4260 PD6	2,125	1,063	1,140	425	2,438	1,315	850	2,700	266	22.2	41.3	25.4
FLX 5100 PD6	2,125	1,063	1,140	425	2,438	1,315	850	2,700	286	22.2	41.3	25.4
FLX 6030 PD6	2,825	942	1,140	425	3,138	1,315	850	3,400	364	28.6	41.3	25.4
FLX 6870 PD6	2,825	942	1,140	425	3,138	1,315	850	3,400	391	28.6	41.3	25.4
FLX 1280	1,125	-	1,140	425	1,438	1,315	850	1,700	139	15.8	28.6	25.4
FLX 1650	1,125	-	1,140	425	1,438	1,315	850	1,700	149	15.8	34.9	25.4
FLX 1870	1,125	-	1,140	425	1,438	1,315	850	1,700	160	19.0	34.9	25.4
FLX 2410	2,125	1,063	1,140	425	2,438	1,315	850	2,700	244	19.0	41.3	25.4
FLX 2850	2,125	1,063	1,140	425	2,438	1,315	850	2,700	263	22.2	41.3	25.4
FLX 3220	2,125	1,063	1,140	425	2,438	1,315	850	2,700	283	22.2	41.3	25.4
FLX 3980	2,825	942	1,140	425	3,138	1,315	850	3,400	361	28.6	41.3	25.4
FLX 4610	2,825	942	1,140	425	3,138	1,315	850	3,400	386	28.6	41.3	25.4
FLX 5030	2,825	942	1,216	425	3,138	1,415	850	3,400	399	28.6	41.3	25.4
FLX 3000 SG	2,125	1,063	1,216	425	2,438	1,415	850	2,700	283	28.6	41.3	25.4
FLX 3600 SG	2,825	942	1,216	425	3,138	1,415	850	3,400	361	28.6	41.3	25.4
FLX 4500 SG	2,825	942	1,216	425	3,138	1,415	850	3,400	399	28.6	41.3	25.4
FLX 3070 SB	2,125	1,063	1,216	425	2,438	1,415	850	2,700	325	28.6	41.3	25.4
FLX 3680 SB	2,825	942	1,216	425	3,138	1,415	850	3,400	424	28.6	41.3	25.4
FLX 4600 SB	2,825	942	1,216	425	3,138	1,415	850	3,400	462	28.6	41.3	25.4

* Packed Dimensions / Weight

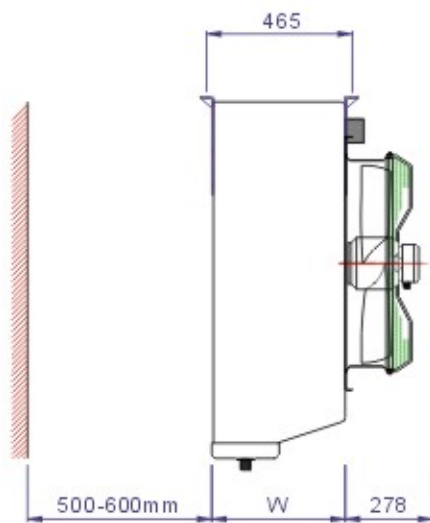
G4 Heavy Duty Profile Series Unit Cooler FNX / FLX PD6 / FLX / FLX SG / FLX SB

Installation Guide for FNX / FLX PD6 / FLX / FLX SG / FLX SB



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

FRONT VIEW



SIDE VIEW

G4 Heavy Duty Profile Series Unit Cooler FNX / FLX PD6 / FLX / FLX SG / FLX SB

ADDITIONAL INFORMATION

Example:

Application: Chicken Meat Freezer
Required Room Temperature: -25°C
Ambient: $+35^{\circ}\text{C}$
Evaporating Temperature: -30°C at 5KTD
Cooling Capacity: 22kW (Inclusive of the Fan and Heater load)
Type of Refrigerant: R404a

Selection of the Eden G4 Unit Cooler as follow:

1. Determine the Correction Factors and Multiplier (Refers to page 4):
 - a. Capacity Correction Factor is approx. 0.85
 - b. Refrigerant multiplier = 0.97
2. Calculation of required Capacity:
 - a. $22\text{kW} / 0.85 / 0.97 = 26.7\text{kW}$ (Inclusive of the Fan and Heater load)
3. Calculate the unit cooler Capacity needed at 5KTD:
 - a. $26.7\text{kW} \times 6 / 5 = 32.04\text{kW}$
5. Hence a **FLX 3220** 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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