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G5 HIGH PROFILE UNIT COOLER

SERIES APPLICATION CAPACITY

FNR - Medium Temperature: 11.9kW ~ 77.9kW
FLT.... P - Medium Temperature with Partial Defrost: 7.6kW ~ 47.6kW
FLT - Low Temperature: 5.4kW ~ 33.0kW
Effective Air Throw: 24.1m ~ 30.9m

G5HP.2205.V3.0

EDEN HEAT EXCHANGERS GREEN PROGRAM COOL SOLUTION

Green and Sustainable | High Performance | Reliable | Valued Experiences

WELCOME TO EDEN!

Eden has made "Green Program" a timeless mission, constantly using revolutionary green technology and aided customers around the world to solve the increasingly competitive environmental challenges.

Eden adopts compact and energy efficient design that has significant advantages in heat transfer technology.

Eden has accumulated rich experience in various applications, providing customers with customised refrigeration solutions and services by improving efficiency and reducing costs.

SPECIFICATIONS

Variety of specifications that go into the production of Eden unit coolers, such as temperature range, fin spacing, defrosting method and refrigerant.

TEMPERATURE RANGE

- **MT** - Medium (Above 0°C)
- **PD** - Partial Defrost (-8°C ~ +2°C)
- **LT** - Low (-32°C ~ -10°C)

FPI

- **4** - 4FPI (6.35mm)
- **6** - 6FPI (4.23mm)

DEFROSTING METHOD

- **A** - Air Defrost
- **E** - Electric Defrost
- **H** - Hot gas

REFRIGERANT

- **HFC** (R404A,R507,R22...)
- **CO2** (On request basis)

NOMENCLATURE

FLT

FNR - Medium Temperature

FLT....P - Medium Temperature with Partial Defrost

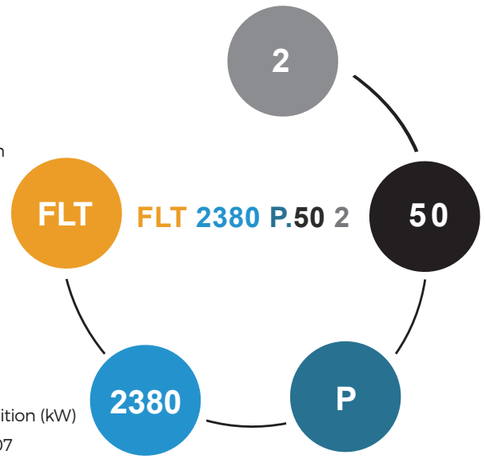
FLT - Low Temperature

2380

Capacity

Based on ET = -10°C, RT = -4°C condition (kW)

2380 = 23.8kW at 6KTD, R404A/R507



2
No, of Fans

50
Fan size (500mm)

P
Partial Defrost

ADVANTAGES

- Provide higher efficiencies and capacities
- Optimize for reduced energy consumption
- Lower operational cost
- Compatible with the latest refrigerants
- Compact and sophisticated outlook
- New and improved Refrigerant Distributor

QUALITY ASSURANCE

- ISO9001 Certification
- International Accreditation Forum
- China National Accreditation Service
- CE certification

GENERAL FEATURES

Eden G5 High Profile Unit Cooler Series is specifically engineered for the commercial and light industrial refrigeration suitable for chiller and freezer cold rooms applications.

Compact Design

Easier installations
Suitable for compact spaces

Fins

Double Sine Wave

High grade Aluminium (AA1100 Standard)
Double Sine Wave Pattern & Rippled Fin Edges
Maximum fin surface and higher heat transfer coefficient

Refrigerant

Refrigerants

Latest refrigerants
(CO2 & NH3 on request basis)

Refrigerant Distributor

Uniformly distributed refrigerant
Optimised the performance of the TXV
Maximised coil capacity

Inner Grooved Tubes

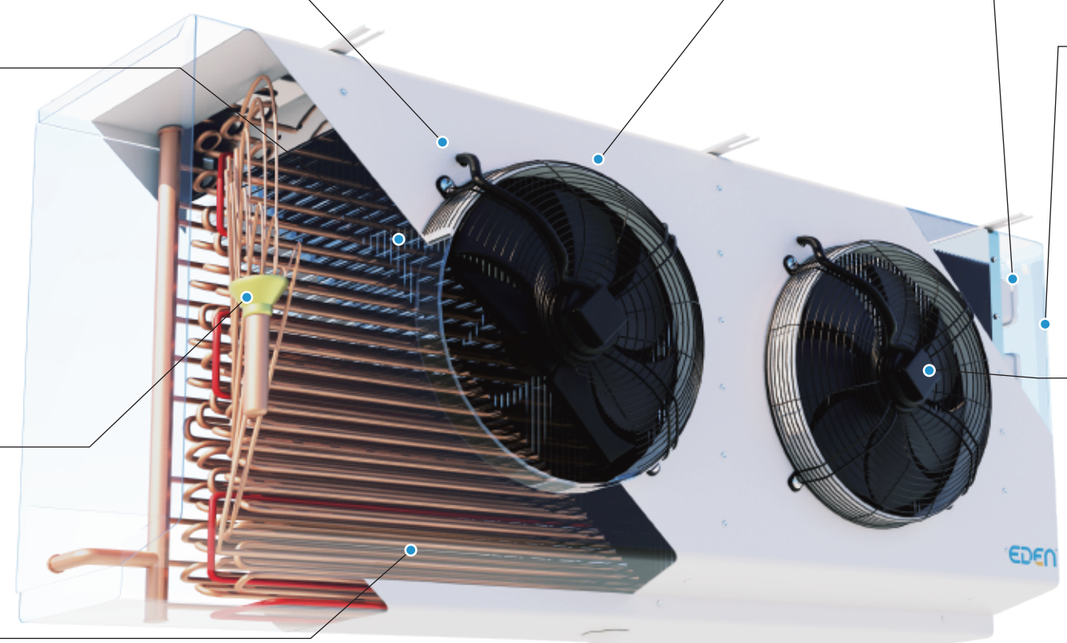
m2->M2

Increases internal surface area whilst having a low oil film coefficient
Higher efficiencies and capacities
JIS-C1220T

Defrosting

Centrally Positioned

Electrical sheathed stainless-steel heating elements with vulcanised rubber connections
Centrally positioned drain outlet



Casing

High quality powder coated Aluminium (AA1100 Standard)
Excellent weathering resistance

Electrical Junction Box(es)

With IP56 Rating

3mm thick ABS, IP56 protection rating with flame class V-0

Hinged Side Panels

Easy access and service of components without removing the panels

Capacity Rating

Thermally guaranteed and tested in accordance with ASHRAE dry box standards

Fan Motor

German Fan

High quality German fan motors
Thermistor motor protection
DIN 40050 safety standards
Long life and durability

Quality Assurance

ISO 9001 Certification •
International Accreditation Forum •
China National Accreditation Service •
CE Certification •
One (1) Year Warranty (Terms and conditions apply) •

Options available at Page 13-15
Logo had been repositioned for illustration purpose

EDEN G5
HIGH PROFILE UNIT COOLER SERIES

G5 High Profile

It is developed on a compact coil platform using Eden's in-house Smart Circuitry Program. Coil efficiencies and cooling capacities were improved, allowing maximum mass flow rate of refrigerant to be evenly distributed throughout the evaporator.

Compact Design

Compact design reduces dimensional volume to enhance cold room productivity without losing cooling capacity. It is suitable for compact spaces and is also easier to handle during installations.

Casing

Casing is made from high quality powder coated Aluminium, according to AA1100 Standard. The coating which made from carboxyl polyester resin has excellent weathering resistance.

Hinged Side Panels

Both side panels with hinges, created to allow easy access and service of components without removing the panels.

Inner Grooved Tubes (IGT)

Eden coils use copper Inner Grooved Tubes (IGT) that increases the internal coil surfaces whilst having a low oil film coefficient thus providing higher efficiencies and capacities. These copper tubes are in accordance with JIS-C1220T Standard.

Refrigerant Distributor

Eden has enhanced the unit cooler with new distributor, ensuring refrigerant flow from the thermostatic expansion valve (TXV) is uniformly distributed into each circuit of the multi-circuit coil, optimising the performance of the thermostatic expansion valve and maximising evaporator coil capacity.

Refrigerant

Eden G5 High Profile Series can also be applied with most new generation refrigerants (CO2 & NH3 on request basis). All Capacity Ratings in this document are thermally guaranteed by Eden and tested in accordance with ASHRAE dry box standards.

Electrical Junction Box(es)

Electrical junction box(es) are 3mm thick ABS, IP56 protection rating with flame class V-0 and are mounted internally.

Fins

Fins are produced from high grade Aluminium (Aluminium Association - AA1100 Standard) with Double Sine Wave Pattern and Rippled Fin Edges for maximum fin surface and higher heat transfer coefficient from primary to secondary surfaces.

Defrosting

Defrosting is by electrical sheathed stainless-steel heating elements with vulcanized rubber connections to ensure effective defrosting and durability. Water resulting from defrosting is channelled to the drain pan with a centrally positioned outlet for positive draining from all points.

Fan Motors

Fan Motors used in all models are high quality German fan 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 low temperature applications.

Quality Assurance

Eden G5 High Profile Series comes with Quality Assurance as they are designed, manufactured and tested at our factory with ISO9001 certification. It also comes with a One (1) Year Warranty against quality & manufacturing defects (Terms and conditions apply)

TECHNICAL DATA
FNR - Medium Temperature Unit Cooler

Air Defrost 6FPI (4.23mm), Room Temperature +3˚C

Defrost			Temperature			Refrigerant		FPI	
A	E	H	MT	PD	LT	CO2	HFC	4	6

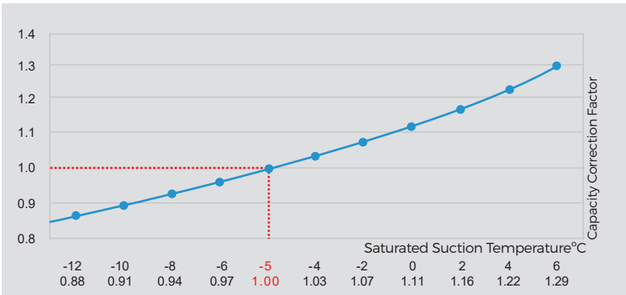
CAPACITY R404A/R507			FAN DATA								DIMENSIONAL DETAILS								CONNECTION DETAILS					
FNR MODEL	ASHRAE ET = -5˚C RT = +3˚C	EUROVENT* ET = -8˚C RT = +0˚C [SC2]	No Of Fans 500mm	Fan Motor			Fan Speed	Air Flow		Air Throw**	Sound Power Level dB(A)	A	B	H	W	L	[H]	[W]	[L]	Liquid	Suction	Drain Pipe	Weight [Kg]	Heat Exchange Area (m²)	Coil volume (litre)
	Watts (8KTD)	Watts (8KTD)		(V/Ph/Hz)	(kW)	(Amps)	(rpm)	(l/s)	(m3/hr)	(m)		(mm)								(mm)					
FNR 1190.501	11900	12870	1	400/3/50	0.77	1.7	1300	2013	7245	26.0	76	930	-	797	333	1316	1100	700	1466	12.7	22.2	25.4	92	24.9	9.1
FNR 1540.501	15400	16660	1	400/3/50	0.77	1.7	1300	1954	7035	25.3	76	930	-	797	333	1316	1100	700	1466	12.7	22.2	25.4	99	33.3	12.2
FNR 1830.501	18300	19800	1	400/3/50	0.77	1.7	1300	1925	6930	24.9	76	930	-	797	333	1316	1100	700	1466	22.2	28.6	25.4	105	41.6	15.2
FNR 2040.501	20400	22070	1	400/3/50	0.77	1.7	1300	1867	6720	24.1	76	930	-	797	333	1316	1100	700	1466	22.2	28.6	25.4	112	49.9	18.2
FNR 2180.502	21800	23580	2	400/3/50	1.54	3.4	1300	3908	14070	28.3	81	1450	-	797	333	1836	1100	700	1986	22.2	28.6	25.4	134	39.3	13.9
FNR 2740.502	27400	29640	2	400/3/50	1.54	3.4	1300	3733	13440	27.0	81	1450	-	797	333	1836	1100	700	1986	22.2	28.6	25.4	144	52.5	18.5
FNR 3170.502	31700	34290	2	400/3/50	1.54	3.4	1300	3588	12915	26.0	81	1450	-	797	333	1836	1100	700	1986	28.6	34.9	25.4	154	65.6	23.1
FNR 3470.502	34700	37540	2	400/3/50	1.54	3.4	1300	3442	12390	24.9	81	1450	-	797	333	1836	1100	700	1986	28.6	34.9	25.4	164	78.7	27.7
FNR 4090.503	40900	44250	3	400/3/50	2.31	5.1	1300	5600	20160	29.7	83	2130	710	797	333	2516	1100	700	2666	28.6	34.9	25.4	197	77.6	26.7
FNR 4740.503	47400	51280	3	400/3/50	2.31	5.1	1300	5425	19530	28.7	83	2130	710	797	333	2516	1100	700	2666	28.6	41.3	25.4	212	97.0	33.4
FNR 5200.503	52000	56260	3	400/3/50	2.31	5.1	1300	5206	18743	27.6	83	2130	710	797	333	2516	1100	700	2666	28.6	41.3	25.4	227	116.4	40.1
FNR 5480.504	54800	59290	4	400/3/50	3.08	6.8	1300	7467	26880	30.9	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	252	103.4	35.2
FNR 6480.504	64800	70110	4	400/3/50	3.08	6.8	1300	7175	25830	29.7	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	272	129.3	44.1
FNR 7790.504	77900	84280	4	400/3/50	3.08	6.8	1300	6883	24780	28.5	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	292	155.2	52.9

[Packed Dimensions / Weight]

Please refer page 15 for the Dimensional Drawings

Application & Correction Factor Guidelines

FNR Capacity Correction Graph



Refrigerant / Capacity Multiplier Table

Refrigerant	Capacity Multiplier
R134A	0.986
R22	1.011
R404A/R507	1.000
R407B	0.961
R407C	0.940
R407F	1.011
R448A	1.030
R449A	0.930

Capacity Ratings & Conditions

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

ASHRAE Condition - Air Inlet Temperature = +3˚C and Evaporating Temperature = -5˚C

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

**Air Throw indicated is the distance from the unit to the furthest point where an air velocity of 0.5m/s can still be measured

Selection Example

Application : Yam Storage room

Required Room Temperature : +16˚C

Ambient : +35˚C

Required KTD : 12KTD (Or 70%RH)

Required Cooling Capacity (Inclusive of the fan and heater load) : 20kW (ASHRAE)

Type of Refrigerant : R134A

01 Determine the Correction Factors and Multiplier (Refer to page 7)

a. Since 12 KTD is required; thus the ET is found to be:
ET = RT - KTD = 16˚C - 12KTD = 4˚C

b. Capacity Correction Factor is Approximately 1.22
(ET -5˚C → 4˚C, refer to Correction Graph)

c. Refrigerant multiplier = 0.986 (R404A → R134A, refer to Table)

02 Calculation of required capacity at ET = 4˚C (@12KTD)
20kW ÷ 1.22 ÷ 0.986 = 16.6kW)
(Inclusive of the fan and heater load)

03 Calculate the unit cooler capacity needed at 8KTD
16.6kW ÷ 12 x 8 = 11.1kW

04 Hence FNR 1190.501 is the selected unit cooler for the above application.

05 To check if selected model FNR 1190.501 will achieve at least 20kW for the above application:
Capacity = 11.9kW x 1.22 x 0.986 ÷ 8 x 12 = 21.5kW (For R134A, 12KTD, ET = 4˚C)
Hence, FNR 1190.501 with cooling capacity of 21.5kW is adequate for this application.

TECHNICAL DATA
FLT....P - Partial Defrost Unit Cooler

Electric Defrost 6FPI (4.23mm), Room Temperature -4˚C

Defrost			Temperature			Refrigerant		FPI	
A	E	H	MT	PD	LT	CO2	HFC	4	6

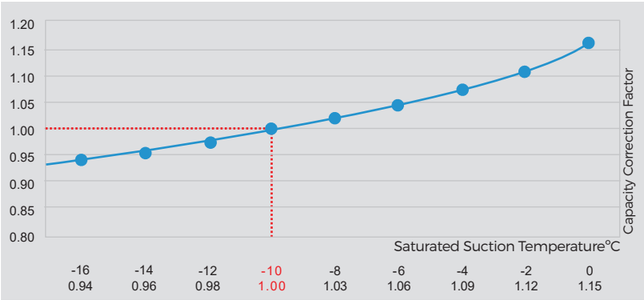
CAPACITY R404A/R507			FAN DATA								DIMENSIONAL DETAILS								CONNECTION DETAILS			HEATER DETAILS				
FLT..P MODEL	ASHRAE ET = -10˚C RT = -4˚C	EUROVENT* ET = -8˚C RT = +0˚C [SC2]	No Of Fans 500mm	Fan Motor			Fan Speed	Air Flow		Air Throw**	Sound Power Level dB(A)	A	B	H	W	L	[H]	[W]	[L]	Liquid	Suction	Drain Pipe	Coil Heater	Drain Pan Heater	Weight [Kg]	Heat Exchange Area (m²)	Coil volume (litre)
	Watts (6KTD)	Watts (8KTD)		(V/Ph/Hz)	(kW)	(Amps)	(rpm)	(l/s)	(m3/hr)	(m)		(mm)								(mm)			(Watts)				
FLT 0760P.501	7600	12000	1	400/3/50	0.77	1.7	1300	2013	7245	26.0	76	930	-	797	333	1316	1100	700	1466	12.7	22.2	25.4	2 x 1230	1 x 750	92	24.7	8.3
FLT 0980P.501	9800	15470	1	400/3/50	0.77	1.7	1300	1954	7035	25.3	76	930	-	797	333	1316	1100	700	1466	12.7	22.2	25.4	2 x 1230	1 x 750	99	33.1	11.4
FLT 1160P.501	11600	18320	1	400/3/50	0.77	1.7	1300	1925	6930	24.9	76	930	-	797	333	1316	1100	700	1466	22.2	28.6	25.4	2 x 1230	1 x 750	105	41.4	14.4
FLT 1290P.501	12900	20370	1	400/3/50	0.77	1.7	1300	1867	6720	24.1	76	930	-	797	333	1316	1100	700	1466	22.2	28.6	25.4	2 x 1230	1 x 750	112	49.7	17.4
FLT 1840P.502	18400	29050	2	400/3/50	1.54	3.4	1300	3733	13440	27.0	81	1450	-	797	333	1836	1100	700	1986	22.2	28.6	25.4	2 x 1780	1 x 750	144	52.1	17.4
FLT 2070P.502	20700	32690	2	400/3/50	1.54	3.4	1300	3588	12915	26.0	81	1450	-	797	333	1836	1100	700	1986	22.2	34.9	25.4	2 x 1780	1 x 750	154	65.2	22.0
FLT 2380P.502	23800	37580	2	400/3/50	1.54	3.4	1300	3442	12390	24.9	81	1450	-	797	333	1836	1100	700	1986	28.6	34.9	25.4	2 x 1780	1 x 750	164	78.3	26.6
FLT 2760P.503	27600	43580	3	400/3/50	2.31	5.1	1300	5600	20160	29.7	83	2130	710	797	333	2516	1100	700	2666	28.6	34.9	25.4	2 x 2630	1 x 750	197	77.1	25.0
FLT 3320P.503	33200	52430	3	400/3/50	2.31	5.1	1300	5425	19530	28.7	83	2130	710	797	333	2516	1100	700	2666	28.6	41.3	25.4	2 x 2630	1 x 750	212	96.5	31.7
FLT 3700P.503	37000	58430	3	400/3/50	2.31	5.1	1300	5206	18743	27.6	83	2130	710	797	333	2516	1100	700	2666	28.6	41.3	25.4	2 x 2630	1 x 750	227	115.9	38.4
FLT 4350P.504	43500	68700	4	400/3/50	3.08	6.8	1300	7175	25830	29.7	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	2 x 3450	1 x 1000	272	128.6	41.9
FLT 4760P.504	47600	75170	4	400/3/50	3.08	6.8	1300	6883	24780	28.5	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	2 x 3450	1 x 1000	292	154.5	50.7

[Packed Dimensions / Weight]

Please refer page 15 for the Dimensional Drawings

Application & Correction Factor Guidelines

FLT....P Capacity Correction Graph



Refrigerant / Capacity Multiplier Table

Refrigerant	Capacity Multiplier
R134A	0.986
R22	1.011
R404A/R507	1.000
R407B	0.961
R407C	0.940
R407F	1.011
R448A	1.030
R449A	0.930

Capacity Ratings & Conditions

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

ASHRAE Condition - Air Inlet Temperature = -4˚C and Evaporating Temperature = -10˚C

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

**Air Throw indicated is the distance from the unit to the furthest point where an air velocity of 0.5m/s can still be measured

Selection Example

Application : Beef, Fresh

Required Room Temperature : 0˚C

Relative Humidity : 90%

Required Cooling Capacity (Inclusive of the fan and heater load) : 11.3kW (ASHRAE)

Type of Refrigerant : R407C

01 Determine the Correction Factors and Multiplier (Refer to page 9)

a. Based on %RH vs KTD Table on page 16, to achieve 90% RH, 4 KTD is required;thus the ET is found to be: ET = RT - KTD = 0˚C - 4KTD = -4˚C

b. Capacity Correction Factor is Approximately 1.09 (ET -10˚C → -4˚C, refer to Correction Graph)

c. Refrigerant multiplier = 0.940 (R404A → R407C, refer to Table)

02 Calculation of required capacity at ET = -4˚C (@4KTD)
11.3kW ÷ 1.09 ÷ 0.940 = 11.0kW (Inclusive of the fan and heater load)

03 Calculate the unit cooler capacity needed at 6KTD
11.0kW ÷ 4 x 6 = 16.5kW

04 Hence a FLT 1840P.502 is the selected unit cooler for the above application.

05 To check if selected model FLT 1840P.502 will achieve at least 11.3kW for the above application:
Capacity = 18.4kW x 1.09 x 0.940 ÷ 6 x 4= 12.6kW (For R407C, 4KTD, ET = -4˚C, RH = 90%)
Hence, FLT 1840P.502 with cooling capacity of 12.6kW is adequate for this application.

TECHNICAL DATA
FLT - Low Temperature Unit Cooler

Electric Defrost 4FPI (6.35mm), Room Temperature -19˚C

Defrost			Temperature			Refrigerant		FPI	
A	E	H	MT	PD	LT	CO2	HFC	4	6

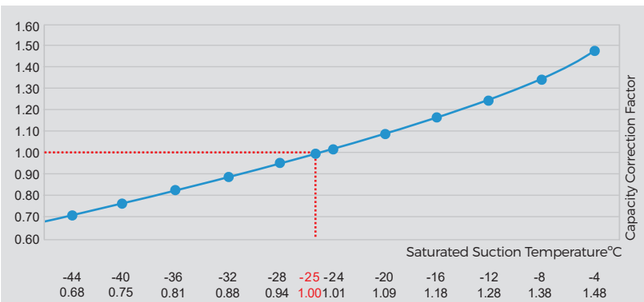
CAPACITY R404A/R507			FAN DATA									DIMENSIONAL DETAILS								CONNECTION DETAILS			HEATER DETAILS				
FLT MODEL	ASHRAE ET = -25˚C RT = -19˚C	EUROVENT* ET = -25˚C RT = -18˚C [SC3]	No Of Fans 500mm	Fan Motor			Fan Speed	Air Flow		Air Throw**	Sound Power Level dB(A)	A	B	H	W	L	[H]	[W]	[L]	Liquid	Suction	Drain Pipe	Coil Heater	Drain Pan Heater	Weight [Kg]	Heat Exchange Area (m²)	Coil volume (litre)
	Watts (6KTD)	Watts (7KTD)		(V/Ph/Hz)	(kW)	(Amps)	(rpm)	(l/s)	(m3/hr)	(m)		(mm)								(mm)			(Watts)				
FLT 0540.501	5400	6610	1	400/3/50	0.77	1.7	1300	2042	7350	26.4	76	930	-	797	333	1316	1100	700	1466	12.7	22.2	25.4	3 x 1230	1 x 750	92	17.3	8.3
FLT 0720.501	7200	8820	1	400/3/50	0.77	1.7	1300	1983	7140	25.6	76	930	-	797	333	1316	1100	700	1466	12.7	22.2	25.4	3 x 1230	1 x 750	98	23.2	11.4
FLT 0870.501	8700	10650	1	400/3/50	0.77	1.7	1300	1954	7035	25.3	76	930	-	797	333	1316	1100	700	1466	12.7	28.6	25.4	3 x 1230	1 x 750	105	29.0	14.4
FLT 0970.501	9700	11880	1	400/3/50	0.77	1.7	1300	1925	6930	24.9	76	930	-	797	333	1316	1100	700	1466	22.2	28.6	25.4	3 x 1230	1 x 750	111	34.9	17.4
FLT 1150.502	11500	14080	2	400/3/50	1.54	3.4	1300	3792	13650	27.4	81	1450	-	797	333	1836	1100	700	1986	22.2	28.6	25.4	3 x 1780	1 x 750	143	36.5	17.4
FLT 1520.502	15200	18620	2	400/3/50	1.54	3.4	1300	3733	13440	27.0	81	1450	-	797	333	1836	1100	700	1986	22.2	34.9	25.4	3 x 1780	1 x 750	153	45.7	22.0
FLT 1670.502	16700	20450	2	400/3/50	1.54	3.4	1300	3675	13230	26.6	81	1450	-	797	333	1836	1100	700	1986	28.6	34.9	25.4	3 x 1780	1 x 750	163	54.9	26.6
FLT 1890.503	18900	23150	3	400/3/50	2.31	5.1	1300	5688	20475	30.1	83	2130	710	797	333	2516	1100	700	2666	28.6	34.9	25.4	3 x 2630	1 x 750	196	54.1	25.0
FLT 2170.503	21700	26580	3	400/3/50	2.31	5.1	1300	5600	20160	29.7	83	2130	710	797	333	2516	1100	700	2666	28.6	41.3	25.4	3 x 2630	1 x 750	211	67.7	31.7
FLT 2510.503	25100	30740	3	400/3/50	2.31	5.1	1300	5425	19530	28.7	83	2130	710	797	333	2516	1100	700	2666	28.6	41.3	25.4	3 x 2630	1 x 750	225	81.3	38.4
FLT 2890.504	28900	35400	4	400/3/50	3.08	6.8	1300	7408	26670	30.6	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	3 x 3450	1 x 1000	269	90.2	41.9
FLT 3300.504	33000	40420	4	400/3/50	3.08	6.8	1300	7233	26040	29.9	84	2830	708	797	333	3226	1100	700	3376	28.6	41.3	25.4	3x 3450	1 x 1000	289	108.4	50.7

[Packed Dimensions / Weight]

Please refer page 15 for the Dimensional Drawings

Application & Correction Factor Guidelines

FLT Capacity Correction Graph



Refrigerant / Capacity Multiplier Table

Refrigerant	Capacity Multiplier
R134A	0.986
R22	1.011
R404A/R507	1.000
R407B	0.961
R407C	0.940
R407F	1.011
R448A	1.030
R449A	0.930

Capacity Ratings & Conditions

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

ASHRAE Condition - Air Inlet Temperature = -19˚C and Evaporating Temperature = -25˚C

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

**Air Throw indicated is the distance from the unit to the furthest point where an air velocity of 0.5m/s can still be measured

Selection Example

Application : Ice Cream Freezer

Required Room Temperature : -25˚C

Required KTD : 7KTD (Or 87.5% RH)

Required Cooling Capacity (Inclusive of the fan and heater load) : 12kW (EUROVENT)

Type of Refrigerant : R407F

01 Determine the Correction Factors and Multiplier (Refer to page 11)

a. Since 7 KTD is required; thus the ET is found to be:
ET= RT - KTD = -25˚C - 7KTD = -32˚C

b. Capacity Correction Factor is Approximately 0.88
(ET -25˚C → -32˚C, refer to Correction Graph)

c. Refrigerant multiplier = 1.011
(R404A → R407F, refer to Table)

02 Calculation of required capacity at ET= -32˚C (@7KTD)
12.0kW ÷ 0.88 ÷ 1.011 = 13.5kW (Inclusive of the fan and heater load)

03 Calculate the unit cooler capacity needed at 7KTD
13.5kW ÷ 7 x 7 = 13.5kW

04 Hence a FLT 1150.502 is the selected unit cooler for the above application.

05 To check if selected model FLT 1150.502 will achieve at least 13.5kW for the above application:
Capacity: 14.08kW x 0.88 x 1.011 ÷ 7 x 7 = 12.5kW (For R407F, 7KTD, ET = -32˚C)
Hence, FLT 1150.502 with cooling capacity of 12.5kW is adequate for this application.

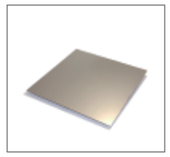
OPTIONS

The following options and accessories are available to enhance the performance and operation of Eden unit coolers.

Casings

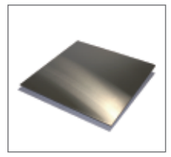
Support Legs

Support legs are offered to facilitate the installation of unit coolers



SS304 Casing

This is a popular and commercial grade stainless steel sheet metal that is ideal for kitchen appliances

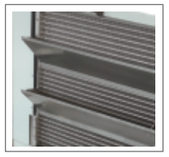


SS316 Casing

Marine grade stainless steel 316 sheet metal is used primarily for its high corrosion resistance

Defrosting

Eden provides a variety of defrosting methods, such as hot gas, water, air and electric; all of which may be used individually or in various combination.



Water Defrost

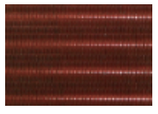
Hot gas Defrost

Combination hot gas coil / heater at drain pan

Fins

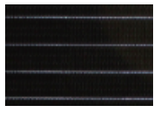
Coil Dipped Epoxy Fins

Coil-Dipped Epoxy Fins are epoxy-based. It helps to increase coil durability, minimise cleaning, service maintenance costs and maximise the operating life of fin and tube surface.



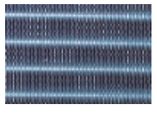
Copper Fins

Copper Fins possess higher thermal conductivity, corrosion resistance and strength than aluminum fins. It is ideal for harsh environments.



Epoxy Fins

Epoxy Fins protect against corrosive agents and severe environments.



Blue Fins

Blue Fins prevent corrosion from the accumulation of salt, acid deposit and water droplets.

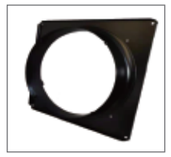
Fan

EC Fan

Improved motor efficiency and variable fan speed control when require

Single Phase Fan

High performance single phase fan motor



Full Venturi

Optimum coil side performance

Explosion Proof

Ideal for explosive environments

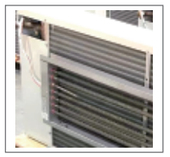
SS304 Fan Grill

Easy cleaning and longer functional life

Coil

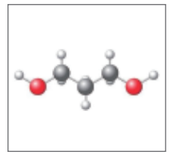
Eden's coil selection program allows coils to be customized to meet the needs of most applications.

Chilled Water Coil (Model End With – W)

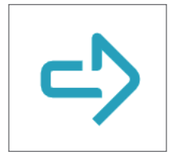


External re-heat coil

Internal Re-heat Coil (Model End With – RH)



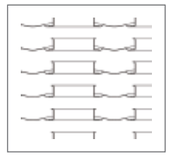
Brine/Glycol (Model End With –BC)



Distributor Connection on Right

Fin Spacing

Fin spacing depends strongly on boundary conditions of the storage system.



Fin Spacing 8,9,10mm (Custom-made)

Components

The following components are available for installation on Eden unit coolers.

Fitted with EVD

Fitted with TXV

Fitted with Thermostat sensor

Accessories

Eden's accessories are designed, tested and approved for use with Eden unit coolers.

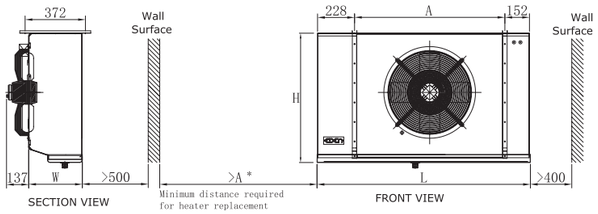
Insulated Drain Pan

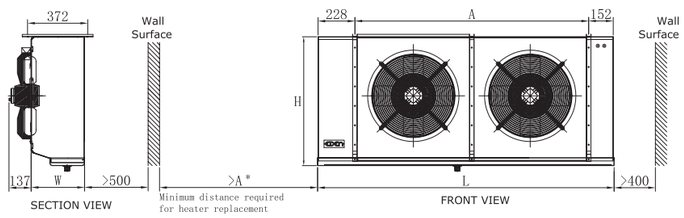
Collar Heater

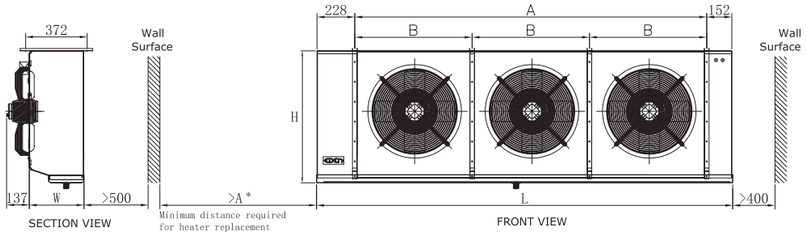
Welded Drain Plug

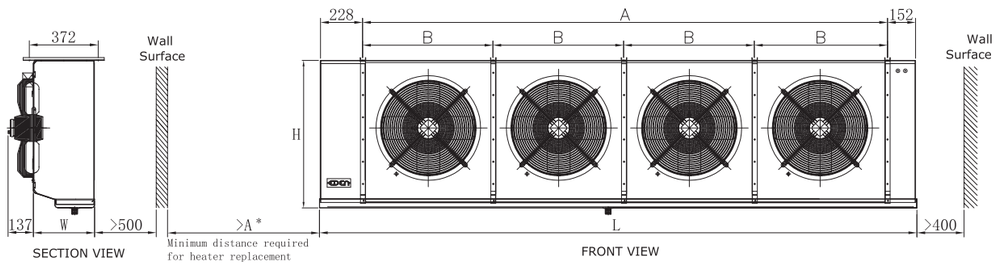
Streamer / Guide Vane

DIMENSIONAL DRAWINGS









A*: Minimum distance required for heater replacement (Not applicable to FNR model)
Please refer to page 7-12 for the dimensional details.

RELATIVE HUMIDITY %RH VS KTD

The Relative Humidity %RH vs KTD of a concrete substrate can be a determining factor in the success or failure of product selection. Tables applicable to all Selection examples, but it will still be adjusted according to the practical situation.

Products	Storage Temperature °C	Recommended RH%
Madarins	4	90 - 95
Avocados	7 to 13	85 - 90
Banana,Green	13 to 14	90 - 95
Yams	16	70 - 80
Bean sprouts	0	95 - 100
Pears	-1.5 to 0.5	90 - 95
Cherries,sweet	-1 to 0.5	90 - 95
Coconuts	0 to 1.5	80 - 85
Dates,Frozen	-18	75
Ice cream	-25	85
Poultry,Frozen	-18	85
Seafood,Frozen	-18	75

Recommended Storage temperature and RH% (USDA,1987)

Relative Humidity %	Temperature Difference(KTD)
60	16
65	14
70	12
75	10
80	8
85	6
90	4
100	2

RH vs KTD Selection Table

EDEN UNIT COOLER CAPACITY RANGE

Horizontal Throw Series

Eden unit cooler series offers a comprehensive range of cooling capacities and robust refrigeration system compatibility, aiding to deliver trust worthy refrigeration services.

MT		PD		LT	
Medium Temperature		**Partial Defrost**		**Low Temperature**	
Ultra Low Profile (UPM)	1.0kW - 15.1kW	Ultra Low Profile (UPM PD6)	0.9kW - 11.8kW	Ultra Low Profile (UPL)	0.8kW - 7.4kW
Low Profile (FEM)	2.5kW - 19.7kW	Low Profile (FEME...P)	2.6kW - 14.3kW	Low Profile (FEME)	1.3kW - 8.5kW
Medium Profile (ESN)	3.4kW - 44.7kW	Medium Profile (ESL...P)	2.8kW - 27.7kW	Medium Profile (ESL)	1.9kW - 21.5kW
High Profile (FNR)	11.9kW - 77.9kW	High Profile (FLT....P)	7.6kW - 47.6kW	High Profile (FLT)	5.4kW - 33.0kW
Heavy Duty (FNX)	22.5kW - 102.5kW	Heavy Duty (FLX....P)	14.1kW - 69.2kW	Heavy Duty (FLX)	9.6kW - 52.3kW
-	-	-	-	Titan Blast Freezer (ETLE/H)	15.0kw - 116.4kW