G4
MATRIX
AIR COOLED CONDENSERS

EDEN®
The Cool Solution



- Capacity Range - 4.0kW to 265.0kW (15KTD)
- High Efficient Coil design with Latest Heat Transfer Technology
- New Aesthetic design with Round Corners
- The High Qualify German Motors
- Very Quiet Operation

MAC.07.16 Ver 1.3

G4 Matrix Profile Series Condensers EFGP

General Features

Coil Design

- Advanced Smart Circuitry Coil Technology combined with Double Sine Wave Fin to maximize the heat transfer coefficient
- Low Oil retention to further improve the heat transfer performance

Fins

- Produced from high grade Aluminum Fins (AA 1100 standard)
- Double Sine Wave Pattern with Rippled Fin Edges to provide higher heat transfer efficiency
- Standard 12FPI coil design with 10FPI option available at no additional cost

Casing

- Casing and Legs are from Galvanized Sheet Steel
- Temperature and UV Radiation resistant Powder Coating on all 500mm and 630mm models
- New Aesthetic design with Round Corners all new G4 condensers in line with Eden G4 products range
- Inbuilt Header Protection on 500mm and 630mm fan models

Axial Fans and Venturis

- G4 Condenser uses high quality German motors
- Standard 2 speed motors are used on all 500mm and 630mm fan models
- All motors are fitted with Thermistor motor protection conforming to DIN 40050 safety standard
- New Eden's special designed Venturi for 300mm, 350mm and 400mm fan models enhances better fan performance
- Ensure long life and durability
- Suitable for outdoor installation and ambient temperature of -30°C to +60°C
- EC fans option available, to maintain ideal discharge pressure and reducing condenser fan power input during low load condition

G4 Matrix Profile Series Condensers EFGP

General Features

Sound Pressure Level

- G4 Condenser offers lower sound pressure levels to meet the most stringent environment requirements of most countries and conforming to DIN 43635 and ISO 3744/3745
- Sound pressure levels are shown in the catalogue at nominated distances under the Inverse Square Sound Laws

"Green"Label

- Greater improved consumed kW to output kW rejection ratio helps reduce Energy Wastage
- Energy Cost reduction through EC fans are readily available on all Eden G4 Condensers

Quality Assurance

- All Eden G4 Condensers are designed, manufactured and tested in our factories that are ISO 9001 certified

One Year Warranty

- For all EDEN G4 condensers (terms and conditions apply)

Optional

a) Passivated Corrosion Protection Fins
b) Copper Fin Coil
c) Stainless Steel Casing
d) Special Motors (60Hz) available
e) EC Motors

Nomenclature

EFGP 1260.53.H.10.EC

- EC - EC Fans Option
- 10 - Fin Spacing, 10FPI (12FPI - Standard)
- H - Mounting Configuration (H - Horizontal Air Flow, V - Vertical Air Flow)
- 3 - No.of Fans
- 5 - Size of Fan Motor in (mm) (2 - 300mm, 3 - 350mm, 4 - 400mm, 5 - 500mm, 6 - 630mm)
- 1260 - Capacities in kW at R22 15KTD (126.0kW)
- EFGP - Eden G4 Condensers

Reg. No. 200411191526(A)

GREEN TECH

EFGP - CONDENSER SPECIFICATIONS

12FPI / 10FPI

Model	Capacities				Fan Data								
	12FPI (2.1mm)		10FPI (2.54mm)		No.of Fan	Fan Motor			Air Flow (m^3/h)	Noise Level dB(A)		Connections(mm)	
	R22 kW 15 KTD	R404A kW 15 KTD	R22 kW 15 KTD	R404A kW 15 KTD		rpm	(Watts)	(Amps)		3m	10m	Inlet	Outlet
EFGP 0046.21	4.6	4.5	4.0	4.0	1×300mm	1,380	70	0.32	1,606	50.0	40.0	15.9	12.7
EFGP 0055.21	5.5	5.4	4.8	4.8	1×300mm	1,380	70	0.32	1,559	50.0	40.0	15.9	12.7
EFGP 0065.21	6.5	6.4	5.7	5.7	1×300mm	1,380	70	0.32	1,498	50.0	40.0	15.9	12.7
EFGP 0092.31	9.2	9.1	8.1	8.0	1×350mm	1,450	145	0.68	3,060	52.0	42.0	15.9	12.7
EFGP 0115.31	11.5	11.4	10.1	10.0	1×350mm	1,450	145	0.68	2,988	52.0	42.0	15.9	12.7
EFGP 0130.31	13.0	12.9	11.4	11.3	1×350mm	1,450	145	0.68	2,880	52.0	42.0	15.9	12.7
EFGP 0144.41	14.4	14.2	12.7	12.5	1×400mm	1,450	135	0.44	3,672	54.0	44.0	22.2	15.9
EFGP 0158.41	15.8	15.6	13.9	13.8	1×400mm	1,450	135	0.44	3,589	54.0	44.0	22.2	15.9
EFGP 0195.41	19.5	19.3	17.2	17.0	1×400mm	1,450	135	0.44	3,510	54.0	44.0	22.2	15.9
EFGP 0232.51	23.2	22.9	20.4	20.2	1×500mm	1,300	770	1.70	7,996	64.0	54.0	28.6	15.9
	17.7	17.5	15.5	15.4	1×500mm	1,025	490	0.84	5,586	59.0	48.5	28.6	15.9
EFGP 0286.51	28.6	28.3	25.2	24.9	1×500mm	1,300	770	1.70	7,812	64.0	54.0	28.6	15.9
	21.8	21.6	19.1	18.9	1×500mm	1,025	490	0.84	5,345	59.0	48.5	28.6	15.9
EFGP 0343.51	34.3	33.9	30.2	29.9	1×500mm	1,300	770	1.70	7,632	64.0	54.0	28.6	22.2
	26.0	25.7	22.8	22.6	1×500mm	1,025	490	0.84	5,104	59.0	48.5	28.6	22.2
EFGP 0384.51	38.4	38.0	33.8	33.4	1×500mm	1,300	770	1.70	7,452	64.0	54.0	28.6	22.2
	29.1	28.8	25.5	25.3	1×500mm	1,025	490	0.84	4,877	59.0	48.5	28.6	22.2
EFGP 0429.61	42.9	42.4	37.6	37.2	1×630mm	900	620	1.25	10,668	63.0	53.0	28.6	22.2
	27.3	27.0	24.1	23.8	1×630mm	720	440	0.72	6,996	58.5	48.0	28.6	22.2
EFGP 0485.61	48.5	48.0	42.7	42.2	1×630mm	900	620	1.25	10,458	63.0	53.0	28.6	22.2
	30.4	30.1	26.7	26.4	1×630mm	720	440	0.72	6,923	58.5	48.0	28.6	22.2
EFGP 0545.61	54.5	53.9	48.0	47.4	1×630mm	900	620	1.25	10,260	63.0	53.0	28.6	22.2
	34.6	34.2	30.4	30.0	1×630mm	720	440	0.72	6,654	58.5	48.0	28.6	22.2
EFGP 0587.61	58.7	58.1	51.7	51.1	1×630mm	900	620	1.25	9,882	63.0	53.0	28.6	22.2
	39.3	38.9	34.5	34.1	1×630mm	720	440	0.72	6,350	58.5	48.0	28.6	22.2
EFGP 0673.52	67.3	66.6	59.2	58.6	2×500mm	1,300	1540	3.40	15,714	66.0	56.0	34.9	22.2
	53.5	52.9	47.0	46.5	2×500mm	1,025	980	1.68	11,125	61.0	50.5	34.9	22.2
EFGP 0783.52	78.3	77.4	68.9	68.1	2×500mm	1,300	1,540	3.40	14,868	66.0	56.0	34.9	22.2
	61.6	60.9	54.1	53.5	2×500mm	1,025	980	1.68	10,708	61.0	50.5	34.9	22.2
EFGP 0888.52	88.8	87.8	78.1	77.3	2×500mm	1,300	1,540	3.40	14,004	66.0	56.0	34.9	22.2
	67.2	66.5	59.0	58.4	2×500mm	1,025	980	1.68	10,216	61.0	50.5	34.9	22.2
EFGP 0933.53	93.3	92.3	82.1	81.2	3×500mm	1,300	2,310	5.10	20,822	68.0	58.0	34.9	28.6
	81.5	80.6	71.6	70.8	3×500mm	1,025	1,470	2.52	16,688	63.0	52.5	34.9	28.6
EFGP 1070.53	107.0	105.8	94.2	93.1	3×500mm	1,300	2,310	5.10	20,257	68.0	58.0	34.9	28.6
	92.4	91.4	81.1	80.2	3×500mm	1,025	1,470	2.52	16,062	63.0	52.5	34.9	28.6

EFGP - CONDENSER SPECIFICATIONS

12FPI / 10FPI

Model	Capacities				Fan Data								
	12FPI (2.1mm)		10FPI (2.54mm)		No.of Fan	Fan Motor			Air Flow (m^3/h)	Noise Level dB(A)		Connections(mm)	
	R22 kW 15 KTD	R404A kW 15 KTD	R22 kW 15 KTD	R404A kW 15 KTD		rpm	(Watts)	(Amps)		3m	10m	Inlet	Outlet
EFGP 1170.53	117.0	115.7	103.0	101.8	3×500mm	1,300	2,310	5.10	19,602	68.0	58.0	41.3	28.6
	97.1	96.0	85.3	84.3	3×500mm	1,025	1,470	2.52	15,325	63.0	52.5	41.3	28.6
EFGP 1260.53	126.0	124.6	110.9	109.7	3×500mm	1,300	2,310	5.10	18,950	68.0	58.0	41.3	34.9
	99.8	98.7	87.6	86.7	3×500mm	1,025	1,470	2.52	14,833	63.0	52.5	41.3	34.9
EFGP 1385.54	138.5	137.0	121.9	120.5	4×500mm	1,300	3,080	6.80	27,007	69.0	59.0	41.3	34.9
	121.4	120.1	106.6	105.4	4×500mm	1,025	1,960	3.36	21,418	64.0	53.5	41.3	34.9
EFGP 1540.54	154.0	152.3	135.5	134.0	4×500mm	1,300	3,080	6.80	26,136	69.0	59.0	41.3	34.9
	128.3	126.9	112.6	111.4	4×500mm	1,025	1,960	3.36	20,439	64.0	53.5	41.3	34.9
EFGP 1625.54	162.5	160.7	143.0	141.4	4×500mm	1,300	3,080	6.80	25,265	69.0	59.0	41.3	34.9
	132.6	131.1	116.4	115.1	4×500mm	1,025	1,960	3.36	19,779	64.0	53.5	41.3	34.9
EFGP 1707.63	170.7	168.8	150.2	148.6	3×630mm	900	1,860	3.75	30,780	67.0	57.0	54.0	34.9
	154.8	153.1	135.9	134.4	3×630mm	720	1,320	2.16	26,734	62.5	52.0	54.0	34.9
EFGP 1890.63	189.0	186.9	166.3	164.5	3×630mm	900	1,860	3.75	29,646	67.0	57.0	54.0	41.3
	162.6	160.8	142.8	141.2	3×630mm	720	1,320	2.16	25,530	62.5	52.0	54.0	41.3
EFGP 2030.63	203.0	200.8	178.6	176.7	3×630mm	900	1,860	3.75	28,404	67.0	57.0	54.0	41.3
	168.2	166.3	147.7	146.1	3×630mm	720	1,320	2.16	24,360	62.5	52.0	54.0	41.3
EFGP 2254.64	225.4	222.9	198.4	196.2	4×630mm	900	2,480	5.00	41,040	68.0	58.0	54.0	41.3
	190.1	188.0	166.9	165.1	4×630mm	720	1,760	2.88	35,645	63.5	53.0	54.0	41.3
EFGP 2500.64	250.0	247.3	220.0	217.6	4×630mm	900	2,480	5.00	39,528	68.0	58.0	54.0	41.3
	208.0	205.7	182.6	180.6	4×630mm	720	1,760	2.88	34,040	63.5	53.0	54.0	41.3
EFGP 2650.64	265.0	262.1	233.2	230.6	4×630mm	900	2,480	5.00	37,872	68.0	58.0	54.0	41.3
	219.9	217.5	193.1	190.9	4×630mm	720	1,760	2.88	32,480	63.5	53.0	54.0	41.3

Note:

Eden cannot guarantee performance of the condensers (capacities ratings, sound level etc), if non standard motors are used.
All Single Fan Motor models will be offerred in Horizontal Air Throw configuration Only.
All 300mm and 350mm are 230V/1Ph/50Hz and all others are 400V/3Ph/50Hz.
* Sound pressure levels are measured in conformity to DIN 45635 and ISO 3744/3745.
* Sound pressure levels are shown in catalogue at a distance of 3m and 10m, under Inverse Square Laws. Sound pressure levels for 1m are at source.

Refrigerant	Capacity Multiplier (Based on R22)
R22	1.00
R407B	0.95
R407C	0.93
R134a	0.975
R404a	0.989
R507	0.989

Correction Factor Guideline (EFGP)

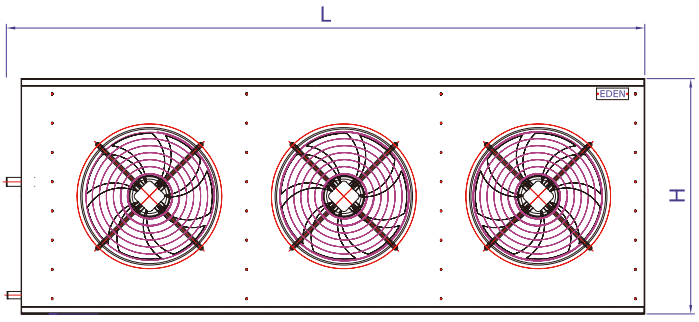
EFGP - TECHNICAL SPECIFICATIONS

Model	Horizontal Air Flow							Vertical Air Flow							Weight (kg)*
	A	H	W	L	H*	W*	L*	A	H	W	L	H*	W*	L*	
EFGP 0046.21	215	459	343	492	610	490	640	-	-	-	-	-	-	-	18
EFGP 0055.21	215	459	343	492	610	490	640	-	-	-	-	-	-	-	19
EFGP 0065.21	215	459	343	492	610	490	640	-	-	-	-	-	-	-	20
EFGP 0092.31	305	459	450	543	610	600	690	-	-	-	-	-	-	-	24
EFGP 0115.31	305	459	450	543	610	600	690	-	-	-	-	-	-	-	26
EFGP 0130.31	305	459	450	543	610	600	690	-	-	-	-	-	-	-	27
EFGP 0144.41	305	509	450	631	660	600	780	-	-	-	-	-	-	-	28
EFGP 0158.41	305	509	450	631	660	600	780	-	-	-	-	-	-	-	30
EFGP 0195.41	305	509	450	631	660	600	780	-	-	-	-	-	-	-	32
EFGP 0232.51	305	662	450	1,012	810	600	1,160	-	-	-	-	-	-	-	64
EFGP 0286.51	305	662	450	1,012	810	600	1,160	-	-	-	-	-	-	-	68
EFGP 0343.51	305	662	450	1,012	810	600	1,160	-	-	-	-	-	-	-	73
EFGP 0384.51	305	662	450	1,012	810	600	1,160	-	-	-	-	-	-	-	77
EFGP 0429.61	253	865	487	1,119	1,020	640	1,270	-	-	-	-	-	-	-	92
EFGP 0485.61	253	865	487	1,119	1,020	640	1,270	-	-	-	-	-	-	-	98
EFGP 0545.61	253	865	487	1,119	1,020	640	1,270	-	-	-	-	-	-	-	104
EFGP 0587.61	253	865	487	1,119	1,020	640	1,270	-	-	-	-	-	-	-	110
EFGP 0673.52	308	920	535	1,806	1,070	680	1,960	308	885	920	1,806	1,030	1,070	1,960	197
EFGP 0783.52	308	920	535	1,806	1,070	680	1,960	308	885	920	1,806	1,030	1,070	1,960	210
EFGP 0888.52	308	920	535	1,806	1,070	680	1,960	308	885	920	1,806	1,030	1,070	1,960	224
EFGP 0933.53	308	920	535	2,496	1,070	680	2,650	308	885	920	2,496	1,030	1,070	2,650	259
EFGP 1070.53	308	920	535	2,496	1,070	680	2,650	308	885	920	2,496	1,030	1,070	2,650	279
EFGP 1170.53	308	920	535	2,496	1,070	680	2,650	308	885	920	2,496	1,030	1,070	2,650	298
EFGP 1260.53	308	920	535	2,496	1,070	680	2,650	308	885	920	2,496	1,030	1,070	2,650	318
EFGP 1385.54	308	920	535	3,196	1,070	680	3,350	308	885	920	3,196	1,030	1,070	3,350	375
EFGP 1540.54	308	920	535	3,196	1,070	680	3,350	308	885	920	3,196	1,030	1,070	3,350	400
EFGP 1625.54	308	920	535	3,196	1,070	680	3,350	308	885	920	3,196	1,030	1,070	3,350	425
EFGP 1707.63	452	1,368	869	2,807	1,520	1,020	2,960	452	1,118	1,368	2,807	1,270	1,520	2,960	465
EFGP 1890.63	452	1,368	869	2,807	1,520	1,020	2,960	452	1,118	1,368	2,807	1,270	1,520	2,960	498
EFGP 2030.63	452	1,368	869	2,807	1,520	1,020	2,960	452	1,118	1,368	2,807	1,270	1,520	2,960	531
EFGP 2254.64	452	1,368	869	3,507	1,520	1,020	3,630	452	1,118	1,368	3,507	1,270	1,520	3,660	586
EFGP 2500.64	452	1,368	869	3,507	1,520	1,020	3,630	452	1,118	1,368	3,507	1,270	1,520	3,660	628
EFGP 2650.64	452	1,368	869	3,507	1,520	1,020	3,630	452	1,118	1,368	3,507	1,270	1,520	3,660	670

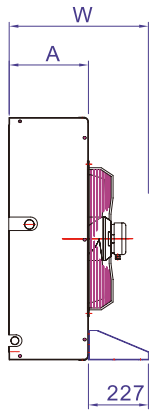
* Packed Dimensions / Weight

INSTALLATION GUIDE FOR EFGP

Horizontal Air Flow (EFGP 0046.21 to EFGP 2650.64)

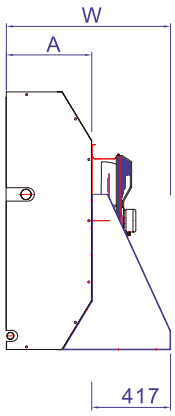


FRONT VIEW



* FOR MODEL EFGP 0046.21 TO EFGP 1625.54

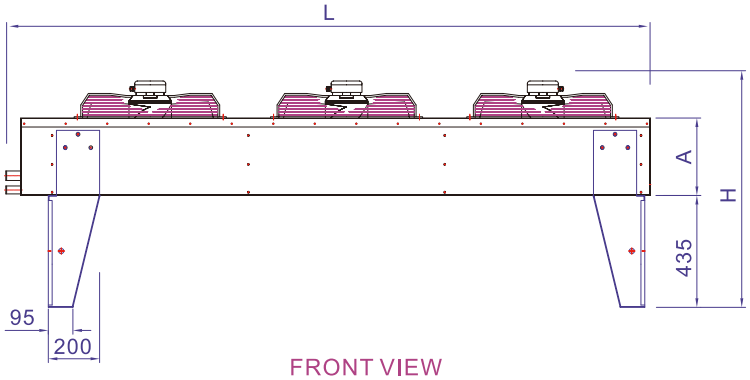
SIDE VIEW



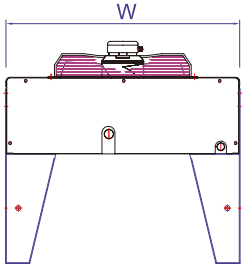
* FOR MODEL EFGP 1707.63 TO EFGP 2650.64

SIDE VIEW

Vertical Air Flow (EFGP 0673.52 to EFGP 2650.64)



FRONT VIEW



SIDE VIEW

EDEN'S ENERGYSAVINGS SOLUTION - EC Technology

New Energy Saving EC Motors & Fans (ESM)

In refrigeration technology, it is necessary to continuously find ways to decrease energy consumption. Eden's goal is to be able to offer products that simply save costs. EC Fans are optional with our Eden G4 Condensers and it is possible to achieve average savings of 30 % using EC technology.
EC technology is an eco-friendly and most cost-efficient alternative to AC technology. The EC motor with its integrated commutation electronics provides maximum efficiency across the entire speed range and optimum noise behaviour with minimum installation complexity.

- EC fans can use as little as 1 / 3 the energy of industry standard fans
- EC fans offer easy, quiet, efficient speed control
- EC fans have all the electronics built into the fan
- EC fans make your other components more efficient
- EC fans save you money
- EC fans make your products more competitive

EC Motors Easy Operation

- EC Motor connects directly to AC-power supply

- 200V..277V single phase
- 380V..480V three phase

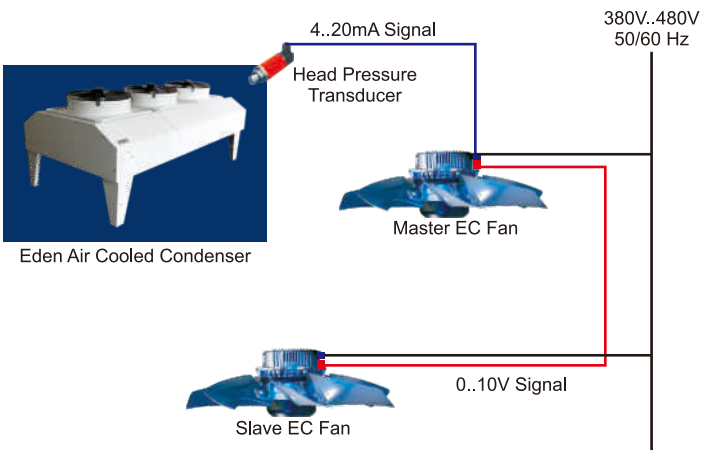
- Operates on either 50Hz or 60Hz with same performance
- Variable speed control without Frequency Inverter, Transformer or TRIAC
- Always operates in the correct direction
- Operates much cooler implies longer lifetime
- Less heat for a refrigeration system to handle (increased refrigeration COP)
- Integrated Alarm Function:

- Thermal Overload Protection Implies No External Motor Protection Switch
- Locked Rotor Protection
- Phase Failure
- High Temperature monitoring: winding temperature / power module / electronics

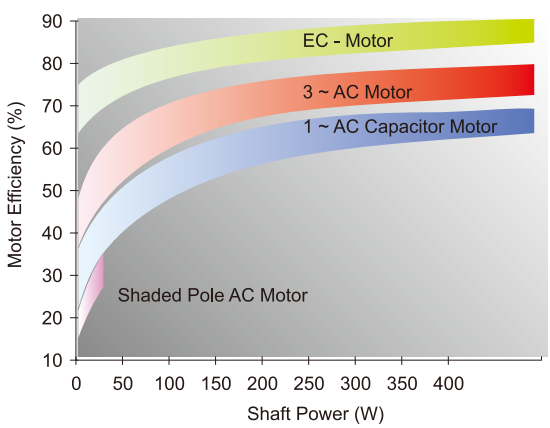
- Simplified cabling & cables with smaller cross section

EC Motors - Master & Slave Speed Control

EC Motors - Master & Slave Speed Control



Efficiency of EC Motors Vs AC Motors



ADDITIONAL INFORMATION

Example:

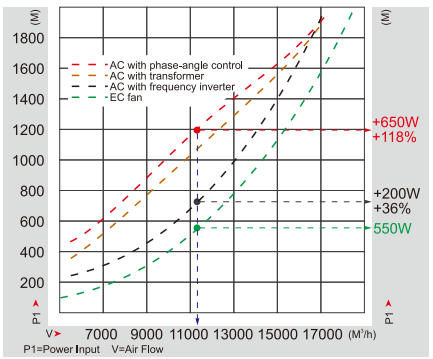
Required Heat Rejection for Condenser: 110kW
Saturated Condensing Temperature: 45°C
Ambient Temperature: 35°C
Therefore, required KTD for Condenser: 10KTD
Type of Refrigerant: R404a
FPI: 12 FPI

Selection of the Eden G4 Condenser as follow:

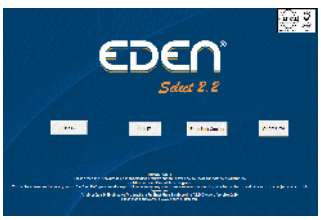
1. Determine the Correction Factors (Refers to page 4):
   a. Capacity Correction Factor for R404a = 0.989
2. Calculation of required Capacity:
   a. 110kW / 0.989 = 111.2kW (Inclusive of the Fan load)
3. Calculate the Condenser Capacity needed at 10KTD
   a. 111.2 x 15 / 10 = 166.8kW
4. Hence an EFGP 1707.63 for High Speed or an EFGP 2030.63 for Low Speed is the suitable Air Cooled Condenser for the above application

Energy Savings With Eden G4 Matrix Condensers

At every speed, the EC fan by definition operates very efficiently. Thus energy savings of over 10 % is attained for condensers / evaporators in which EC fans work, even at nominal speed. In the continuously controlled range, the relative and absolute savings are substantially greater. Compared to EC technology, conventional phase-angle control can use as much as twice the energy.



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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