



EDEN E²PAK

Frequency Inverter Condensing Units Product Catalogue





EDEN E²Pak Frequency Inverter Condensing Unit

The E²Pak has been specifically developed for applications with varying cooling loads in multiple evaporator systems. As cooling loads constantly change, the E²Pak intelligently adapts to meet these loads by regulating the speed of the compressor and/or condenser fan(s), thereby allowing constant temperature regulation within refrigerated spaces; reduces compressor cycling and achieves an overall energy efficiency operation at all times. The E²Pak has been designed for a quick and easy on-site setup and installation without the need of many additional components.

The E²Pak incorporates Bitzer Octagon[®] Compressor with integrated frequency inverter, operating within 30-80Hz and EDEN G4 energy efficient air-cooled Condenser using German AC fans (standard) or EC fans (optional).

Bitzer Octagon[®] Compressors with integrated suction gas cooled frequency inverter

- ▶ High reliability
- ▶ High system efficiency
- ▶ Low operating cost

Eden energy efficient air cooled condenser with EC Fan(Optional)

- ▶ High system efficiency
- ▶ Low operating cost
- ▶ Low sound emission with activation of low sound mode for night operations



"Plug and Play" concept with fully integrated programmable control, wiring, piping and smart toggles

- ▶ Easy on-site installation
- ▶ Easy configuration & setup

Sleek and slim design and removal housing with vertical air flow

- ▶ Suitable to indoor & outdoor installations

Features

Special Highlights of E²Pak

- Optimum capacity adaptation by an integrated frequency inverter – capacity control range above 3:1
- ▶ High system efficiency during optimized operation of compressor and condenser fans
- ▶ High reliability due to active monitoring of compressor parameters and application limits
- ▶ Vertical air flow for space saving wall mounting
- ▶ Adequately size condenser suitable for high ambient temperature installations
- ▶ Smart toggle switches available for low sound mode and chiller/freezer application
- ▶ Easy commissioning due to pre-programmed controller

Reliable Octagon[®] Technology

- ▶ Universal application range (R404A/507A/R407C/R134A/R22)
- ▶ Solid and compact design for a large variable speed range (30Hz to 80Hz) with integrated suction gas cooled frequency inverter
- ▶ Soft compressor start without starting current peaks
- ▶ Low vibration construction for quiet operation at all frequencies

Energy Efficient Eden Air Cooled Condensers

- ▶ Eden's latest condenser coil technology incorporating Inner Grooved Tubes for high efficiency.
- ▶ Compact design with a wide range condensing capacity suitable for higher ambient temperatures
- ▶ Variable speed EC Fans for optimal performance and low sound operation during night mode activation, available as option.

Complete Equipment

- ▶ Attractive weather protective housing
- ▶ Integrated pre-programmed control and monitoring of all unit parameters
- ▶ Accessible external control panel
- ▶ Integrated main switch and compressor contactor
- ▶ Complete wiring and piping for easy on-site installation

Intelligent System Control

- ▶ Step-less capacity adaptation during variable cooling load conditions
- ▶ Step-less control of condenser fans
- ▶ Automatic low sound or economy mode during lower ambient temperature conditions
- ▶ Temperature set back during night mode operations
- ▶ Active monitoring of application limits and operating parameters
- ▶ Selectable condenser fan start temperature selectable for winter operations
- ▶ Externally located connections for suction and liquid line
- ▶ Liquid line integrated with sight glass and filter drier
- ▶ Liquid receiver with shut off valve

Adaptable Range of Cooling Capacities

The step-less modulation of the compressor and condenser fan allows for a flexible adaptation of the compressor capacity to the actual cooling requirements. Cooling load fluctuations are not only easily control, it is possible to maintain constant cooling capacity over a wider ambient temperature range.

NOMENCLATURE

EPF2D030.0274.61

1	- No. of Fans
6	- Fan Size (mm) (2 - 300mm, 3 - 350mm, 4 - 400mm, 5 - 500mm, 6 - 630mm)
0274	- Total Heat Rejection of Condenser (kW) (0274 - 27.4kW at 15KTD, R22)
030	- Nominal Capacity (HP), 030 - 3HP
2D	- Compressor Series
F	- Bitzer F1 compressor
EP	- E ² Pak Frequency Inverter Condensing Units

E²Pak Condensing Units PERFORMANCE DATA

R404A / R507A

30Hz / 50Hz / 80Hz

Model	Ambient Temperature (°C)	Refrigerating Capacity Q ₀ (W) Power Input P _e (kW)															
		Evaporating Temperature (°C)															
		+5			-5			-15			-25			-35			
		30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	
EPF2D030.0274.61	27	Q ₀	8,160	13,690	20,000	5,730	9,700	14,650	3,880	6,600	10,100	2,490	4,240	6,530	1,500	2,500	3,860
		P _e	1.84	3.40	6.13	1.73	3.12	5.35	1.55	2.72	4.55	1.31	2.23	3.66	1.03	1.69	2.69
	32	Q ₀	7,530	12,640	18,480	5,280	8,940	13,490	3,560	6,050	9,250	2,270	3,850	5,930	1,340	2,230	3,440
		P _e	2.03	3.71	6.58	1.87	3.34	5.68	1.64	2.86	4.75	1.36	2.30	3.73	1.04	1.68	2.66
	43	Q ₀	6,310	10,550	15,130	4,370	7,470	11,060	2,890	4,960	7,640	1,790	3,060	4,750	1,010	1,660	2,580
		P _e	2.37	4.28	7.45	2.12	3.71	6.27	1.81	3.08	5.04	1.44	2.37	3.80	1.05	1.62	2.51
EPF4F050.0345.61	27	Q ₀	10,880	17,800	25,100	7,680	12,870	18,750	5,220	8,830	13,320	3,360	5,710	8,730	1,990	3,380	5,200
		P _e	2.52	4.76	8.71	2.36	4.28	7.49	2.10	3.70	6.23	1.77	3.01	4.94	1.38	2.25	3.59
	32	Q ₀	10,030	16,460	23,200	7,070	11,850	17,270	4,780	8,090	12,210	3,050	5,180	7,930	1,780	3,020	4,640
		P _e	2.75	5.12	9.21	2.54	4.55	7.86	2.22	3.88	6.47	1.84	3.10	5.04	1.40	2.25	3.56
	43	Q ₀	8,430	13,520	-	5,880	9,820	14,050	3,910	6,670	9,910	2,420	4,150	6,410	1,350	2,290	3,550
		P _e	3.17	5.84	-	2.85	5.03	8.56	2.44	4.15	6.85	1.95	3.21	5.13	1.42	2.20	3.41
EPF4E060.0345.61	27	Q ₀	-	-	-	9,650	15,870	22,400	6,560	11,010	16,150	4,210	7,120	1,080	2,470	4,190	6,420
		P _e	-	-	-	3.00	5.51	9.74	2.65	4.68	7.93	2.20	3.76	6.16	1.69	2.76	4.39
	32	Q ₀	-	-	-	8,860	14,610	20,600	5,990	10,060	14,790	3,810	6,450	9,780	2,200	3,720	5,700
		P _e	-	-	-	3.22	5.82	10.15	2.79	4.87	8.17	2.28	3.84	6.24	1.71	2.73	4.32
	43	Q ₀	-	-	-	7,370	11,910	-	4,900	8,270	11,890	3,020	5,160	7,840	1,640	2,810	4,350
		P _e	-	-	-	3.59	6.39	-	3.03	5.18	8.56	2.40	3.93	6.29	1.71	2.66	4.10

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R134A

30Hz / 50Hz / 80Hz

Model	Ambient Temperature (°C)	Refrigerating Capacity Q ₀ (W) Power Input P _e (kW)															
		Evaporating Temperature (°C)															
		+5			0			-5			-10			-20			
		30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	
EPF2D030.0274.61	27	Q ₀	4,960	8,470	13,000	4,070	6,950	10,710	3,300	5,650	8,720	2,650	4,520	7,000	1,640	2,750	4,260
		P _e	1.06	1.92	3.28	1.01	1.80	3.06	0.94	1.68	2.82	0.88	1.54	2.57	0.71	1.23	2.02
	32	Q ₀	4,660	7,950	12,210	3,820	6,520	10,040	3,090	5,280	8,150	2,470	4,220	6,520	1,510	2,540	3,930
		P _e	1.15	2.06	3.50	1.08	1.93	3.25	1.01	1.79	2.99	0.93	1.63	2.71	0.75	1.28	2.09
	43	Q ₀	4,060	6,980	10,700	3,310	5,690	8,810	2,660	4,570	7,110	2,100	3,620	5,630	1,260	2,120	3,290
		P _e	1.31	2.32	3.90	1.24	2.16	3.59	1.15	1.98	3.27	1.06	1.79	2.93	0.83	1.36	2.18
EPF4F050.0345.61	27	Q ₀	6,710	11,400	17,230	5,490	9,350	14,280	4,440	7,570	11,630	3,540	6,040	9,300	2,130	3,620	5,600
		P _e	1.40	2.55	4.43	1.33	2.39	4.08	1.24	2.21	3.73	1.15	2.01	3.37	0.92	1.58	2.58
	32	Q ₀	6,300	10,700	16,220	5,150	8,760	13,400	4,150	7,080	10,870	3,300	5,630	8,670	1,970	3,330	5,150
		P _e	1.52	2.74	4.71	1.43	2.55	4.32	1.33	2.35	3.94	1.22	2.13	3.53	0.97	1.63	2.65
	43	Q ₀	5,520	9,440	14,080	4,880	7,690	11,650	3,590	6,160	9,500	2,820	4,850	7,530	1,630	2,780	4,330
		P _e	1.74	3.07	5.28	1.63	2.84	4.79	1.50	2.59	4.29	1.37	2.32	3.80	1.05	1.72	2.74
EPF4E060.0345.61	27	Q ₀	8,650	14,570	21,500	7,090	12,010	17,970	5,750	9,780	14,840	4,610	7,840	12,000	2,800	4,780	7,370
		P _e	1.84	3.39	6.07	1.79	3.23	5.62	1.71	3.04	5.17	1.61	2.82	4.72	1.34	2.27	3.71
	32	Q ₀	8,110	13,670	20,100	6,640	11,250	16,850	5,380	9,130	13,870	4,290	7,300	11,170	2,580	4,400	6,780
		P _e	2.01	3.66	6.46	1.93	3.45	5.94	1.82	3.21	5.41	1.69	2.94	4.89	1.38	2.31	3.74
	43	Q ₀	7,080	11,850	17,310	5,760	9,790	14,430	4,620	7,910	11,840	3,650	6,260	9,550	2,120	3,630	5,640
		P _e	2.32	4.17	7.25	2.19	3.84	6.55	2.03	3.50	5.86	1.85	3.14	5.15	1.43	2.33	3.70

E²Pak Condensing Units

PERFORMANCE DATA

R22

30Hz / 50Hz / 80Hz

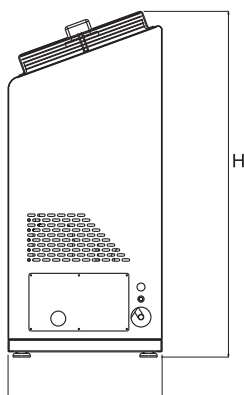
Model	Ambient Temperature (°C)	Refrigerating Capacity Q ₀ (W) Power Input P _e (kW)															
		Evaporating Temperature (°C)															
		+5			0			-10			-20			-25			
		30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	30Hz	50Hz	80Hz	
EPF2D030.0274.61	27	Q ₀	7,480	12,680	19,000	6,230	10,590	16,070	4,200	7,160	10,990	2,670	4,560	7,020	2,070	3,520	5,430
		P _e	1.54	2.84	5.11	1.53	2.78	4.83	1.40	2.49	4.18	1.20	2.07	3.42	1.10	1.87	3.05
	32	Q ₀	7,040	11,940	17,880	5,850	9,940	15,080	3,910	6,660	10,210	2,450	4,170	6,420	1,880	3,190	4,900
		P _e	1.72	3.14	5.54	1.67	3.01	5.16	1.49	2.61	4.36	1.25	2.14	3.51	1.14	1.92	3.12
	43	Q ₀	6,160	10,440	15,370	5,070	8,660	12,890	3,290	5,640	8,670	1,950	3,350	5,190	1,450	2,440	3,790
		P _e	2.03	3.65	6.37	1.92	3.39	5.79	1.64	2.83	4.67	1.36	2.28	3.68	1.25	2.05	3.28
EPF4F050.0345.61	27	Q ₀	10,440	17,430	25,300	8,690	14,640	21,500	5,820	9,890	14,960	3,670	6,240	9,570	2,810	4,790	7,350
		P _e	2.13	4.06	7.56	2.09	3.86	6.97	1.91	3.39	5.77	1.62	2.81	4.64	1.47	2.50	4.09
	32	Q ₀	9,850	16,450	23,800	8,180	13,770	20,200	5,440	9,220	13,960	3,370	5,740	8,780	2,550	4,340	6,660
		P _e	2.38	4.44	8.12	2.30	4.18	7.42	2.04	3.59	6.05	1.70	2.92	4.79	1.53	2.58	4.19
	43	Q ₀	8,700	14,260	20,600	7,160	11,930	17,330	4,640	7,930	11,760	2,750	4,710	7,250	2,000	3,420	5,290
		P _e	2.81	5.21	9.23	2.65	4.78	8.31	2.28	3.93	6.59	1.87	3.12	5.05	1.68	2.75	4.39
EPF4E060.0345.61	27	Q ₀	12,730	20,800	29,700	10,630	17,620	25,400	7,170	12,110	17,910	4,560	7,740	11,780	3,530	5,990	9,150
		P _e	2.72	5.34	10.05	2.66	5.00	9.10	2.39	4.26	7.34	2.01	3.48	5.77	1.83	3.11	5.10
	32	Q ₀	11,990	19,580	-	9,990	16,560	23,800	6,690	11,280	16,670	4,190	7,100	10,790	3,200	5,420	8,270
		P _e	3.03	5.81	-	2.91	5.37	9.61	2.54	4.49	7.65	2.11	3.62	5.96	1.92	3.23	5.26
	43	Q ₀	10,530	-	-	8,740	14,190	-	5,710	9,600	13,910	3,400	5,820	8,750	2,490	4,260	6,540
		P _e	3.58	-	-	3.34	6.10	-	2.82	4.90	8.27	2.33	3.90	6.37	2.15	3.51	5.64

For Performance Data for Individual Input Data and Entire Application Range, Please Refer To Bitzer Software

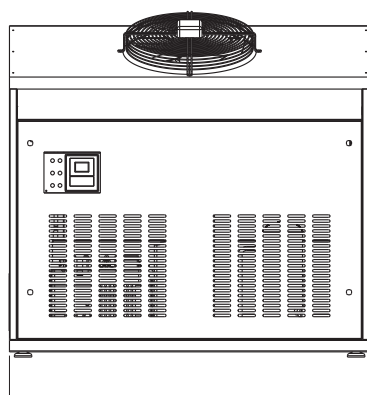
DIMENSION

Model	Size (mm)						Weight (kg)*
	H	W	L	H*	W*	L*	
EPF2D030.0274.61	1,450	620	1,391	1,610	780	1,555	180
EPF4F050.0345.61	1,450	620	1,391	1,610	780	1,555	220
EPF4E060.0345.61	1,450	620	1,391	1,610	780	1,555	250

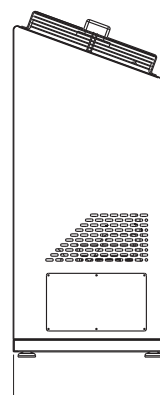
* Packed Dimensions / Weight



SIDE VIEW



FRONT VIEW

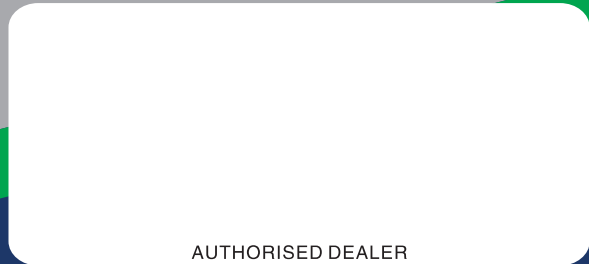


SIDE VIEW



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