



PattonPak E-Series High Efficiency Outdoor Units Powered by Bitzer & EC fan motors



- Fitted with BITZER ECOLINE Semi-Hermetic Compressors
- EC fans for energy efficiency and precise condenser control
- Generously sized high ambient condensers with "Patton Coat" coil and fin protection
- Oil Separator with & Traxoil electronic oil level control
- Crank Heater & Delta PII oil pressure safety switch
- Suction line Accumulator fitted on all models
- Demountable liquid line drier and sight glass
- Danfoss VSD fitted on 'VFD' and 'VFD-W' versions
- Electrical box fully wired c/w all electrics, and isolator
- Attractive weather proof, powder coated housing

E-Series

Fitted with Bitzer Ecoline semi-hermetic compressors, combined with EC fan motor technology and large air-cooled condensers, PattonPak E-Series outdoor package units have been designed and engineered with high level energy efficiency in mind. E-Series units are also available with Bitzers advanced CRII capacity control and VFD versions with variable speed drives. These options allow compressor capacity to quickly adjust to variable load requirements and further enhance energy efficiency by providing optimised capacity and operation.

All condenser coils are coated with "Patton Coat" coil and fin protection and enclosures have hardy construction with signal white powder coated finish, ensuring units are both aesthetically pleasing and can handle the elements.



Standard Features and Inclusions

- Bitzer Ecoline semi-hermetic compressor
- 3 Phase EC condenser fans with controller
- Generously sized air-cooled condenser
- Patton Coat, quality coil and fin protection
- Liquid receiver with inlet outlet valves
- Oil separator with internal oil reservoir
- Electronic oil level control and monitoring
- Suction Accumulator fitted on all models
- Demountable liquid line drier and sight glass
- Pre-wired electrical panel and componentry
- High quality powder coated panel enclosure
- Danfoss mechanical dual pressure control
- Delta PII oil pressure safety cut-out switch
- Crankcase heater fitted to compressor

Optional Components

- CRII capacity control system with controller
- Back-up changover electrics for VFD version
- Mechanical or air-cooled liquid subcooler
- Head cooling fan for required applications
- Liquid Injection kit for required applications
- Advanced controller for XWEB online monitoring

Capacity Control Options

Capacity control is often required to match the output of a refrigeration system to the actual requirement which can vary at different conditions or with switching on and off of evaporators on installations with multiple fixtures. This prevents high switching frequency of the compressor and can maintain evaporating temperature at an optimal level. Both of these functions ensures a much more stable and efficient operation of the system.



Danfoss VLT Drive standard on all VFD & VFD-W Models

The continuous variable speed control provided by the VLT Refrigeration Drive makes intelligent capacity control possible. By creating stability while balancing the capacity to the actual load, system-wide coefficient of performance improves providing significant energy savings in a wide range of applications. It also features a setup Wizard which uses common refrigeration terms. This makes installation and commissioning easy and safe for refrigeration technicians and installers.

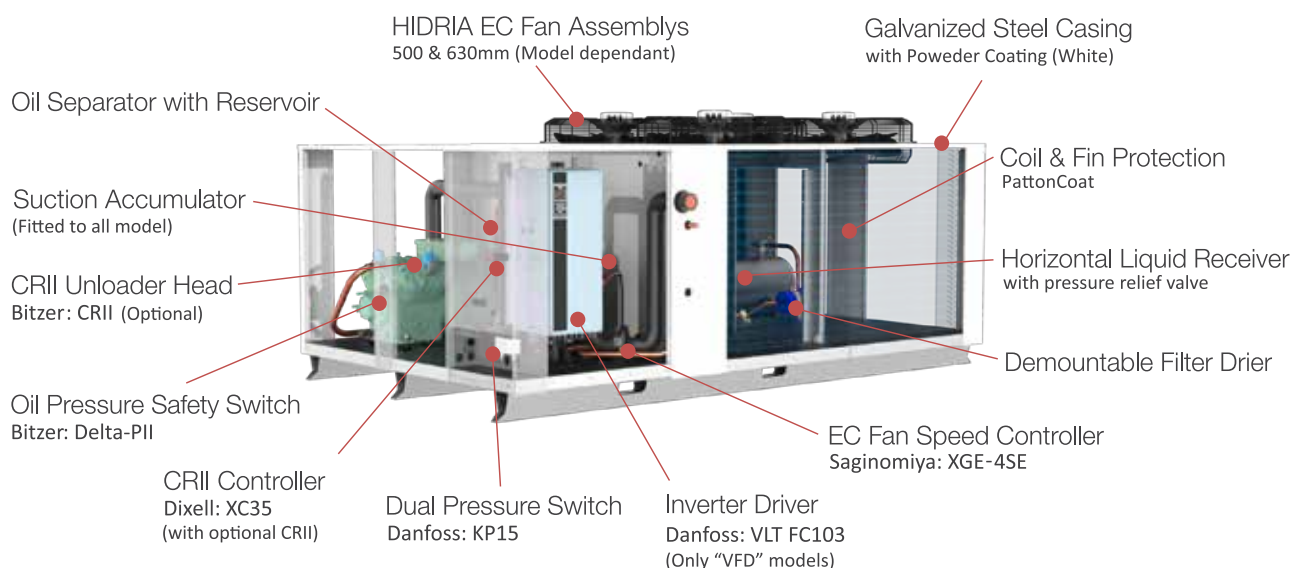
CRII Capacity Control optional on all non VFD models

E-Series offers optional CRII unloader system, controlled by Dixell digital capacity controller. This allows the compressor to quickly load and unload based upon the suction pressure set point. The unloaders are activated and deactivated much faster than traditional cylinder unloading, providing tighter control to better maintain suction pressure and system efficiency.



- 1 head fitted on 4 cylinder models (50 to 100% capacity control)
- 2 heads fitted on 6 cylinder models (33 to 100% capacity control)

Component View of 4 Fan Model



MEDIUM TEMP

Fixed Speed

22 40 hp

R404A MED TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)			
			-15	-10	-5	0
PSBM2200E	22	38	25110	30930	37610	45120
		43	22420	27820	34040	41070
PSBM2500E	25	38	30170	37100	44980	53940
		43	27070	33410	40730	49100
PSBM3000E	30	38	34990	42910	52010	62350
		43	31420	38740	47080	56720
PSBM3500E	35	38	44440	54650	66390	79610
		43	39930	49410	60230	72450
PSBM4000E	40	38	49850	60790	73410	87320
		43	44690	54890	66430	79330

MEDIUM TEMP

Variable Speed

22 40 hp

R404A MED TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)							
			-15		-10		-5		0	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
PSBM2200E-VFD	22	38	13400	25190	16690	31090	20540	37800	24940	45340
		43	12020	22550	15090	27960	18680	34220	22820	41280
PSBM2200E-VFD-W	22	38	13510	29630	16860	36430	20740	44280	25260	53130
		43	12130	26520	15230	32840	18880	40180	23100	48400
PSBM2500E-VFD-W	25	38	15990	34920	19850	42840	24360	51860	29510	61880
		43	14410	31310	18010	38570	22160	46970	27000	56340
PSBM3000E-VFD-W	30	38	18440	40630	22880	49680	28060	59970	33930	71690
		43	16610	36380	20700	44740	25500	54430	31010	65240
PSBM3500E-VFD-W	35	38	23510	51460	29190	63150	35840	76450	43410	91600
		43	21200	46210	26450	57080	32630	69350	39760	83380
PSBM4000E-VFD	40	38	26640	49950	32870	61040	40150	73560	48490	87710
		43	24000	44870	29790	54970	36510	66550	44230	79700
PSBM4000E-VFD-W	40	38	26750	57930	33000	70660	40300	85050	48670	101340
		43	24110	51920	29920	63690	36660	77040	44510	92020

- Ratings based on 20k suction superheat, 3k subcooling / VFD versions at 25hz min / 50hz max / 60hz max on VFD-W
- Please contact Beijer Ref for ratings at other frequency's or with other refrigerants

MEDIUM TEMP

Fixed Speed

22 40 hp

R448A MED TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)			
			-15	-10	-5	0
PSBM2200E	22	38	23780	29650	36400	44080
		43	21550	27090	33410	40700
PSBM2500E	25	38	28680	35650	43570	52650
		43	26140	32640	40110	48630
PSBM3000E	30	38	33290	41240	50440	60780
		43	30390	37770	46340	56190
PSBM3500E	35	38	42340	52530	64310	77600
		43	38560	48160	59210	71930
PSBM4000E	40	38	47690	58780	71520	85740
		43	43470	53870	65720	79100

MEDIUM TEMP

Variable Speed

22 40 hp

R448A MED TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)							
			-15		-10		-5		0	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
PSBM2200E-VFD	22	38	12620	23920	15890	29820	19680	36590	24110	44300
		43	11480	21690	14550	27180	18150	33590	22340	40900
PSBM2200E-VFD-W	22	38	12720	28150	16030	35030	19880	42930	24370	51930
		43	11580	25490	14690	31970	18350	39450	22570	47900
PSBM2500E-VFD-W	25	38	15120	33380	18930	41310	23360	50300	28500	60560
		43	13820	30350	17400	37800	21600	46260	26450	55870
PSBM3000E-VFD-W	30	38	17450	38810	21840	47920	26960	58340	32870	70140
		43	15960	35340	20070	43860	24880	53540	30440	64650
PSBM3500E-VFD-W	35	38	22190	49260	27840	60960	34380	74350	41990	89530
		43	20300	44840	25620	55860	31780	68390	38980	82770
PSBM4000E-VFD	40	38	25270	47900	31530	59040	38730	71710	47070	86130
		43	23130	43650	28990	54090	35790	66000	43630	79430
PSBM4000E-VFD-W	40	38	25360	55680	31640	68490	38920	82990	47220	99250
		43	23180	50730	29090	62730	35920	76200	43780	91490

- Ratings based on 20k suction superheat, 3k subcooling / VFD versions at 25hz min / 50hz max / 60hz max on VFD-W
- Please contact Beijer Ref for ratings at other frequency's or with other refrigerants

MEDIUM TEMP

Fixed Speed

15 44 hp

R134a MED TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)					
			-15	-10	-5	0	+5	+10
PSBL1500E	15	38	15260	19470	24310	29810	36000	42910
		43	14020	17980	22540	27760	33660	40190
PSBL1800E	18	38	18200	23050	28650	34990	42110	50120
		43	16770	21360	26580	32580	39400	46950
PSBL2300E	23	38	20270	25670	31910	39010	47030	55910
		43	18490	23560	29450	36110	43640	52160
PSBL2800E	28	38	25600	32240	39930	48750	58750	69960
		43	23740	30030	37270	45640	55070	65740
PSBL3400E	34	38	30970	39120	48580	59390	71570	85150
		43	28570	36270	45160	55280	66810	79670
PSBL4400E	44	38	37680	47540	58920	72020	86690	103180
		43	34770	44100	54870	67160	81040	96690

MEDIUM TEMP

Variable Speed

15 44 hp

R134a MED TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)									
			-15		-10		-5		0		+5	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
PSBL1500E-VFD	15	38	7910	18960	10160	24080	12780	29910	15810	36510	19280	43890
		43	7280	17410	9390	22210	11880	27750	14750	33950	18070	40970
PSBL1800E-VFD	18	38	9430	22630	12040	28540	15090	35240	18620	42810	22680	51270
		43	8710	20850	11170	26380	14050	32700	17390	39850	21230	47860
PSBL2300E-VFD	23	38	10550	25150	13490	31680	16950	39140	20920	47500	25530	56880
		43	9640	22910	12420	29040	15670	35980	19450	43950	23800	52840
PSBL2800E-VFD	28	38	13230	31940	16740	40030	20880	49340	25750	59940	31350	71770
		43	12310	29600	15610	37250	19550	46000	24160	56030	29470	67260
PSBL3400E-VFD	34	38	16020	38510	20410	48520	25550	59930	31530	72750	38430	87210
		43	14820	35490	18920	44880	23790	55550	29430	67740	35930	81270
PSBL4400E-VFD	44	38	19430	46950	24710	59020	30880	72770	38120	88470	46400	105910
		43	17970	43300	22950	54620	28800	67690	35620	82400	43430	98870

- Ratings based on 20k suction superheat, 3k subcooling / VFD versions at 25hz min / 65hz max on VFD (R134a)
- Please contact Beijer Ref for ratings at other frequency's or with other refrigerants

LOW TEMP

Fixed Speed

22 40 hp

R404A LOW TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)				
			-35	-30	-25	-20	
PSBL1500E	15	38	9110	12160	15700	19850	24640
		43	7870	10640	13890	17670	22110
PSBL1800E	18	38	10950	14460	18540	23260	28740
		43	9570	12730	16410	20730	25720
PSBL2300E	23	38	13050	17020	21600	26930	33030
		43	11460	15050	19220	24030	29630
PSBL2800E	28	38	15780	20640	26280	32750	40200
		43	13820	18280	23410	29350	36120
PSBL3400E	34	38	20090	26030	32880	40850	49950
		43	17730	23100	29360	36670	44940
PSBL4400E	44	38	23670	30960	39420	49130	60310
		43	20730	27350	35110	44020	54180

LOW TEMP

Variable Speed

15 44 hp

R404A LOW TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)							
			-35		-30		-25		-20	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
PSBL1500E-VFD	15	38	4720	8950	6380	12050	8360	15650	10690	19860
		43	4070	7700	5590	10510	7400	13820	9560	17670
PSBL1500E-VFD-W	15	38	4750	10850	6430	14410	8420	18540	10810	23430
		43	4110	9390	5640	12600	7460	16400	9660	20880
PSBL1800E-VFD	18	38	5710	10910	7630	14460	9900	18580	12580	23340
		43	4990	9510	6720	12710	8800	16430	11270	20800
PSBL1800E-VFD-W	18	38	5740	13080	7670	17070	9970	21800	12690	27330
		43	5020	11380	6770	15010	8870	19340	11360	24440
PSBL2300E-VFD	23	38	6830	12930	9010	16950	11600	21590	14660	26990
		43	6010	11310	7980	14960	10360	19190	13140	24080
PSBL2300E-VFD-W	23	38	6930	15490	9160	20350	11840	26000	15010	32660
		43	6110	13500	8130	17920	10560	23100	13460	29180
PSBL2800E-VFD	28	38	8300	15690	10890	20620	13990	26270	17630	32820
		43	7300	13690	9700	18180	12520	23370	15860	29390
PSBL2800E-VFD-W	28	38	8380	18680	11020	24480	14170	31250	17890	39090
		43	7380	16300	9800	21580	12680	27760	16120	34990
PSBL3400E-VFD	34	38	10430	20050	13650	26040	17490	32940	22020	40970
		43	9220	17660	12180	23070	15690	29390	19840	36680
PSBL3400E-VFD-W	34	38	10480	23640	13740	30590	17640	38720	22200	48140
		43	9270	20780	12280	27140	15800	34530	20020	43210
PSBL4400E-VFD	44	38	12220	23720	16180	31050	20860	39570	26370	49340
		43	10700	20760	14360	27420	18650	35230	23700	44210
PSBL4400E-VFD-W	44	38	12260	27780	16210	36190	20960	45910	26480	57120
		43	10740	24230	14400	31870	18700	40780	23810	51110

- Ratings based on 20k suction superheat, 3k subcooling / VFD versions at 25hz min / 50hz max / 60hz max on VFD-W
- Head cooling fan or liquid injection may be required at evaporating temperatures below -30deg, R404A
- Please contact Beijer Ref for ratings at other frequency's or with other refrigerants

LOW TEMP

Fixed Speed

15 44 hp

R448A LOW TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)				
			-35	-30	-25	-20	
PSBL1500E	15	38	8000	11070	14660	18840	23630
		43	6950	9770	13120	17000	21550
PSBL1800E	18	38	9740	13260	17390	22160	27700
		43	8560	11810	15630	20110	25250
PSBL2300E	23	38	11740	15730	20390	25780	31970
		43	10430	14160	18450	23470	29180
PSBL2800E	28	38	14110	19070	24830	31400	38980
		43	12430	17090	22460	28620	35710
PSBL3400E	34	38	18260	24270	31280	39350	48610
		43	16230	21880	28440	35930	44590
PSBL4400E	44	38	21160	28600	37250	47110	58460
		43	18650	25640	33690	42920	53560

LOW TEMP

Variable Speed

15 44 hp

R448A LOW TEMP

Model	Nom. hp	Ambient °C	Evaporating Temp °C (Watts)							
			-35		-30		-25		-20	
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
PSBL1500E-VFD	15	38	4130	8160	5780	11190	7730	14760	10050	18940
		43	3580	7100	5110	9920	6940	13230	9110	17140
PSBL1500E-VFD-W	15	38	4160	9310	5810	12940	7790	17200	10150	22160
		43	3600	8000	5150	11400	7000	15360	9210	20010
PSBL1800E-VFD	18	38	5030	9580	6930	13170	9180	17370	11860	22200
		43	4420	8370	6180	11730	8290	15580	10780	20090
PSBL1800E-VFD-W	18	38	5050	11680	6960	15770	9250	20580	11950	26130
		43	4440	10280	6230	14080	8340	18520	10870	23690
PSBL2300E-VFD	23	38	6280	11980	8390	15970	10900	20610	13910	25990
		43	5640	10720	7590	14390	9920	18640	12710	23630
PSBL2300E-VFD-W	23	38	6350	14380	8510	19190	11110	24800	14190	31330
		43	5720	12840	7700	17290	10110	22450	12990	28530
PSBL2800E-VFD	28	38	7540	14020	10110	19020	13160	24840	16780	31480
		43	6720	12280	9130	17010	12000	22450	15350	28670
PSBL2800E-VFD-W	28	38	7600	16990	10210	22870	13300	29700	16980	37600
		43	6790	14990	9240	20500	12120	26880	15560	34200
PSBL3400E-VFD	34	38	9490	18380	12680	24450	16460	31480	20930	39590
		43	8490	16400	11480	22060	15040	28580	19200	36150
PSBL3400E-VFD-W	34	38	9550	21610	12760	28760	16580	37010	21110	46520
		43	8550	19220	11580	25890	15160	33620	19390	42420
PSBL4400E-VFD	44	38	11050	21530	14980	28950	19600	37500	25080	47440
		43	9780	18980	13480	25980	17840	34020	22930	43240
PSBL4400E-VFD-W	44	38	11070	24810	15010	33550	19670	43500	25120	55000
		43	9810	21780	13540	29980	17880	39320	23020	49980

- Ratings based on 20k suction superheat, 3k subcooling / VFD versions at 25hz min / 50hz max / 60hz max on VFD-W
- Head cooling fan or liquid injection may be required at evaporating temperatures below -25deg, R448A
- Please contact Beijer Ref for ratings at other frequency's or with other refrigerants

TECHNICAL DATA

TECHNICAL DATA

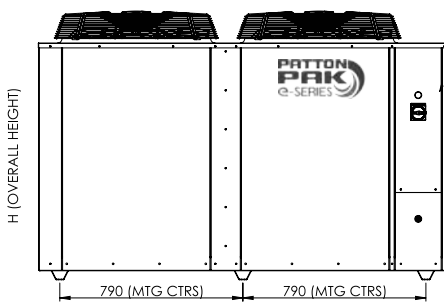
UNIT MODEL	COMPRESSOR				CONDENSER			Rec (Ltrs)	CONNECTIONS		DIMENSIONS (mm)				Kg	dB(A) @3.0 mtrs
	Model	HP	Disp (M³/hr)	MCC (Amps)	Fans (mm)	Amps (Total)	Air (L/S)		Liquid (Inch)	Suction (Inch)	L	W	H	DWG		
FIXED SPEED MODELS																
PSBM2200E	4JE-22Y	22	63.5	37.2	2 x 630	3.1	6250	20	7/8"	1-5/8"	1762	990	1252	A	370	63
PSBM2500E	4HE-25Y	25	73.7	44.0	4 x 630	6.2	14760	45	1-1/8"	2-1/8"	2874	1768	1227	C	890	64
PSBM3000E	4GE-30Y	30	84.6	51.2	4 x 630	6.2	14100	45	1-1/8"	2-1/8"	2874	1768	1227	C	900	66
PSBM3500E	6HE-35Y	35	110.5	64.4	4 x 630	6.2	13260	45	1-1/8"	2-1/8"	2874	1768	1227	C	910	67
PSBM4000E	6GE-40Y	40	126.8	73.9	4 x 630	6.2	13260	45	1-1/8"	2-1/8"	2874	1768	1227	C	920	68
PSBL1500E	4JE-15Y	15	63.5	30.8	2 x 630	3.1	7050	20	5/8"	1-5/8"	1762	990	1150	A	340	65
PSBL1800E	4HE-18Y	18	73.7	36.7	2 x 630	3.1	6730	20	7/8"	1-5/8"	1762	990	1150	A	350	65
PSBL2300E	4GE-23Y	23	84.6	43.9	2 x 630	3.1	6630	20	7/8"	2-1/8"	1815	990	1150	A	400	69
PSBL2800E	4FE-28Y	28	101.8	52.8	4 x 630	6.2	14760	45	1-1/8"	2-1/8"	2874	1768	1227	C	900	72
PSBL3400E	6GE-34Y	34	126.8	65.5	4 x 630	6.2	14100	45	1-1/8"	2-1/8"	2874	1768	1227	C	920	72
PSBL4400E	6FE-44Y	44	151.6	83.2	4 x 630	6.2	13260	45	1-1/8"	2-1/8"	2874	1768	1227	C	930	73
VARIABLE SPEED MODELS																
PSBM2200E-VFD	4JE-22Y	22	63.5	37.2	2 x 630	3.1	6250	20	7/8"	1-5/8"	1762	990	1252	A	410	63
PSBM2200E-VFD-W	4JE-22Y	22	63.5	37.2	4 x 500	7.2	8840	45	7/8"	1-5/8"	2232	1768	1227	B	850	68
PSBM2500E-VFD-W	4HE-25Y	25	73.7	44.0	4 x 630	6.2	14760	45	1-1/8"	2-1/8"	2874	1768	1227	C	940	65
PSBM3000E-VFD-W	4GE-30Y	30	84.6	51.2	4 x 630	6.2	14100	45	1-1/8"	2-1/8"	2874	1768	1227	C	950	67
PSBM3500E-VFD-W	6HE-35Y	35	110.5	64.4	4 x 630	6.2	13260	45	1-1/8"	2-1/8"	2874	1768	1227	C	950	68
PSBM4000E-VFD	6GE-40Y	40	126.8	73.9	4 x 630	6.2	13260	45	1-1/8"	2-1/8"	2874	1768	1227	C	970	68
PSBM4000E-VFD-W	6GE-40Y	40	126.8	73.9	4 x 630	6.2	12500	45	1-1/8"	2-1/8"	2874	1768	1330	C	990	69
PSBL1500E-VFD	4JE-15Y	15	63.5	30.8	2 x 630	3.1	7050	20	5/8"	1-5/8"	1762	990	1150	A	380	65
PSBL1500E-VFD-W	4JE-15Y	15	63.5	30.8	2 x 630	3.1	6730	20	5/8"	1-5/8"	1762	990	1150	A	390	66
PSBL1800E-VFD	4HE-18Y	18	73.7	36.7	2 x 630	3.1	6730	20	7/8"	1-5/8"	1762	990	1150	A	390	65
PSBL1800E-VFD-W	4HE-18Y	18	73.7	36.7	2 x 630	3.1	6630	20	7/8"	1-5/8"	1762	990	1150	A	440	66
PSBL2300E-VFD	4GE-23Y	23	84.6	43.9	2 x 630	3.1	6630	45	7/8"	2-1/8"	1815	990	1150	C	440	69
PSBL2300E-VFD-W	4GE-23Y	23	84.6	43.9	4 x 630	6.2	14760	45	1-1/8"	2-1/8"	2874	1768	1227	C	950	71
PSBL2800E-VFD	4FE-28Y	28	101.8	52.8	4 x 630	6.2	14760	45	1-1/8"	2-1/8"	2874	1768	1227	C	940	72
PSBL2800E-VFD-W	4FE-28Y	28	101.8	52.8	4 x 630	6.2	14100	45	1-1/8"	2-1/8"	2874	1768	1227	C	950	73
PSBL3400E-VFD	6GE-34Y	34	126.8	65.5	4 x 630	6.2	14100	45	1-1/8"	2-1/8"	2874	1768	1227	C	970	72
PSBL3400E-VFD-W	6GE-34Y	34	126.8	65.5	4 x 630	6.2	13460	45	1-1/8"	2-1/8"	2874	1768	1227	C	990	73
PSBL4400E-VFD	6FE-44Y	44	151.6	83.2	4 x 630	6.2	13260	45	1-1/8"	2-1/8"	2874	1768	1227	C	1000	73
PSBL4400E-VFD-W	6FE-44Y	44	151.6	83.2	4 x 630	6.2	12500	45	1-1/8"	2-1/8"	2874	1768	1330	C	1040	74

- Noise level ratings are "free field" based at a distance of 3m from source and are given as a guide only.
- Compressor displacement is at a frequency of 50hz and rotational speed of 1450rpm.

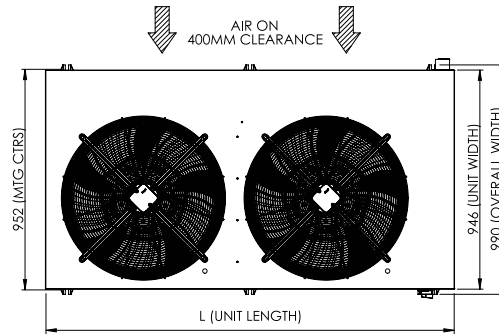


DIMENSIONS

2 FAN MODELS (Drawing A)

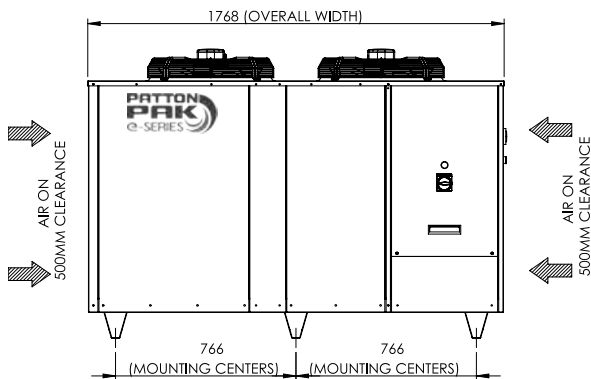


FRONT ELEVATION

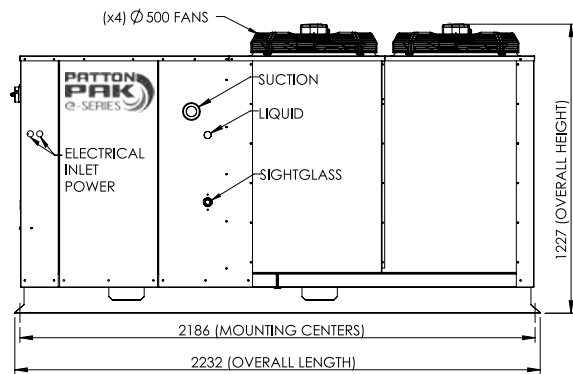


PLAN VIEW

4 FAN MODELS (Drawing B)

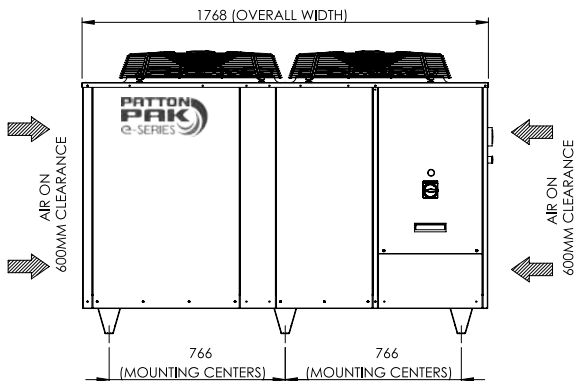


FRONT ELEVATION

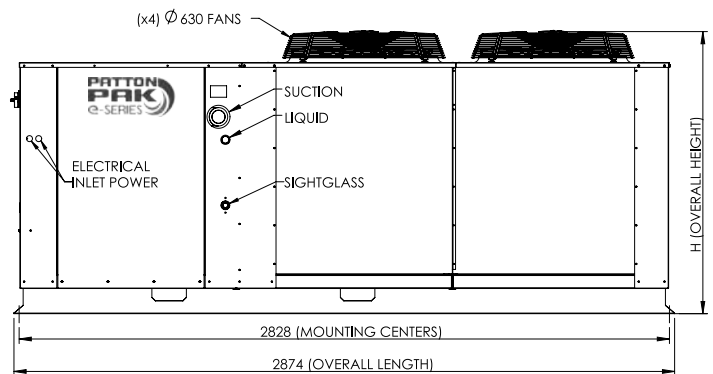


SIDE ELEVATION

4 FAN MODELS (Drawing C)



FRONT ELEVATION



SIDE ELEVATION



Beijer Ref reserves the right to make specification changes without notice. AU 17/02/2023