

## Liebert<sup>®</sup> PDX

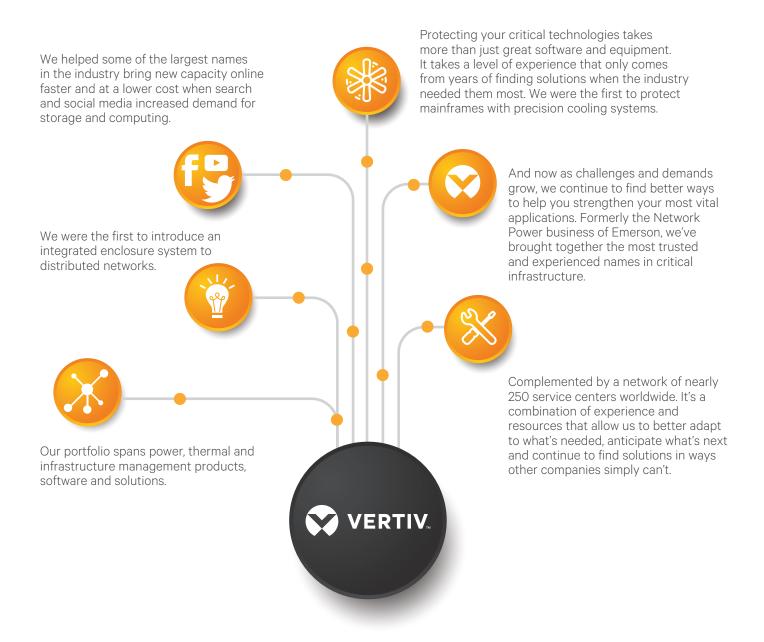
The Cooling Solution for Small and Medium Data Centers



## Enabling Tomorrow's CRITICAL EDGE INFRASTRUCTURE









## **The Thermal Management Solution for Small and Medium Data Centers**

The Liebert PDX direct expansion cooling unit is equipped with the most advanced industry technology which allows the unit to reach significant levels of efficiency, guaranteeing precise cooling of data centers and server rooms.

Liebert PDX is designed to provide efficient small and large room cooling for data centers, where efficiency, flexibility and simplicity of installation are key factors.

#### **FEATURES**

- Extended Units
- Full load Efficiency +10%
- EC Fan 2.0
- pPUE 1.12
- Partial Load Efficiency +30%
- Up to 100m Length
- Economizer, Freecooler, SmartAisle™
- Digital & EEV
- Up to 38°C Room Temperature with SmartAisle™

#### APPLICATION

- -Variable Frequency Drives Rooms
- -Electrical Panel Rooms
- -Control Rooms
- –UPS, Battery & RACK Room
- -Instrument Calibration Room



## Liebert® PDX direct expansion cooling unit

Equipped with the most advanced industry technology which allows the unit to reach significant levels of efficiency, Liebert PDX guarantees an efficient thermal management of data centers and server rooms.

Liebert PDX is available both in air cooled and water cooled versions to suit various site installation requirements. It also allows multiple freecooling modes of operation (Direct Air, Indirect Water, Chilled Water on Freecooling Chiller and Liebert® EconoPhase™ pumped refrigerant economizer) increasing its ability to adapt to diverse application demands.

The Liebert<sup>®</sup> EconoPhase<sup>™</sup> pumped refrigerant economizer is compatible with Liebert PDX and Liebert MC to improve thermal management and control, while drastically cutting energy costs and lowering pPUE.

The unit's Digital Scroll configuration, instead, is responsible for modulating cooling capacity while the fresh air economizer function, operated by the iCOMTM control, is adopted when outside air temperature is colder than the return temperature.

In addition, the combination of R410A refrigerant, Electronic Expansion Valve (EEV) and new generation Liebert® EC Fans 2.0 all allow the unit to reach significant levels of efficiency.



## Liebert<sup>®</sup> PDX

# The Cooling Solution for Small and Medium Data Centers

					Single	e Circuit						
Model		PX015	PX021	PX025	PX031	PX033	PX041	PX045	PX059	PX047	PX051	PX057
Total Gross Cooling Capacity	kW	13.9	19.1	25.0	30.1	34.2	40.41	44.6	57.3	46.28	53.1	59.0
Net Sensible Cooling Capacity	kW	13.4	18.2	23.2	26.5	28.7	35.8	39.1	45.1	43.8	50.0	54.6
SHR		1.00	1.00	0.98	0.94	0.90	0.93	0.93	0.82	1.00	1.00	0.98
Net Sensible EER		4.37	3.93	3.53	3.21	3.09	3.51	3.33	2.99	3.70	3.47	3.40
Airflow	m³/h	4462	5672	6792	7752	7944	10000	10900	11200	14500	15800	1630
Max. ESP	Pa	250	250	250	220	180	250	100	80	300	300	300
Dimensions (WxD)	mm	844x890	844x 890	844x 890	844x 890	844x 890	1200x890	1200×890	1200x890	1750x890	1750x890	1750x890
Height (H)	mm	1970	1970	1970	1970	1970	1970	1970	2570	1970	1970	1970
Weight	kg	290	300	320	340	340	452	456	593	620	621	675
Number of Capacity Steps		1	1	1	1	1	1	1	2	1	1	2
<ul> <li>▲ Up Flow</li> <li>→ Frontal</li> <li>▲ Downflow Down - Fans in Raised Floor</li> </ul>				<b>↑</b>				► ●	<b>↑</b> ∢		<b>↑</b> →	
<ul> <li>Cooling Version</li> <li>Air Cooled</li> <li>Water Cooled</li> <li>Dual fluid (Chilled water + DX Air Cooled)</li> <li>Dual fluid - Chilled water + DX Water Cooled</li> <li>Freecooling</li> <li>EconoPhase</li> </ul>				∭ ≇ 2∰ ¥		S 		S.				×
					Doubl	e Circuit						
Model		PX044	PX054	PX062	PX06	8 PX074	4 PX09	2 PX0	82 PX	094 PX	(104	PX120
Total Gross Cooling Capacity	kW	44.8	55.1	62.5	66.1	74.8	92.5	85	.7 9	4.5 10	06.5	123.9
Net Sensible Cooling Capacity	kW	42.3	51.2	55.6	62.2	62.9	72.2	78	4 8	4.9 9	91.7	100.7

Total Gross Cooling Capacity	kW	44.8	55.1	62.5	66.1	74.8	92.5	85.7	94.5	106.5	123.9
Net Sensible Cooling Capacity	kW	42.3	51.2	55.6	62.2	62.9	72.2	78.4	84.9	91.7	100.7
SHR		0.99	0.99	0.95	0.98	0.90	0.82	0.97	0.96	0.92	0.86
Net Sensible EER		3.79	3.53	3.35	4.08	3.09	2.93	3.60	3.38	3.10	2.95
Airflow	m³/h	12500	15500	16300	18500	17600	17950	24000	26000	27000	27000
Max. ESP	Pa	300	200	200	300	80	180	250	150	100	100
Dimensions (WxD)	mm	1750x 890	1750x 890	1750x 890	2550x 890	1750 x890	1750x 890	2550x 890	2550x 890	2550x 890	2550x 890
Height (H)	mm	1970	1970	1970	1970	1970	2570	1970	1970	1970	1970
Weight	kg	638	642	680	887	680	776	901	901	901	954
Number of Capacity Steps		2	2	2	2	2	2	2	2	2	4
<ul> <li>Airflow Delivery</li> <li>Down Flow UP - Fans Over 1</li> <li>Up Flow</li> <li>Frontal</li> <li>Downflow Down - Fans in Ra</li> </ul>			↓ ↑ ♪		<b>↓</b> •	<ul> <li>↓</li> <li>↓</li></ul>			↓ ↑ 		
Cooling Version <ul> <li>Air Cooled</li> <li>Water Cooled</li> </ul>									<b>*</b>		

Performances at 24°C 50% - 45° C condensing temperature 8 Nominal ESP 20 Pa

The Cooling Solution for Small and Medium Data Centers



#### Liebert<sup>®</sup> PDX - Digital Scroll - SmartAisle™

					Single	Circuit						
Model		PX021	PX025	PX031	PX033	PX041	PX045	PX059	PX047	PX051	PX057	
Total Gross Cooling Capacity	kW	24.9	32.4	37.8	41.9	50.3	55.4	68.8	63.0	67.4	74.6	
Net Sensible Cooling Capacity	kW	24.1	31.1	36.0	39.9	48.4	53.0	66.4	60.5	64.3	71.3	
SHR		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Net Sensible EER		4.79	4.65	4.24	4.18	4.62	4.36	4.35	4.58	4.53	4.37	
Airflow	rn³/h	5672	6792	7752	7944	10000	10900	11200	14500	15800	16300	
Max. ESP	Pa	250	250	230	200	250	100	80	300	300	300	
Dimensions (WxD)	mm	844x890	844x 890	845x 890	844x 890	1200x890	1200x890	1200x890	1750x890	1750x890	1750x89	С
Height (H)	mm	1970	1970	1970	1970	1970	1970	2570	1970	1970	1970	
Weight	kg	300	320	340	340	452	456	593	635	637	675	
Minimum Nominal Capacity Modulation		20%	20%	20%	20%	20%	20%	25%	25%	25%	25%	
Airflow Delivery         Down Flow UP - Fans Over         ↓         Up Flow         ▶         Frontal         ▶         Downflow Down - Fans in F				↓ ↑							<ul> <li>↓</li> <li>↓</li></ul>	
Cooling Version         Air Cooled         Water Cooled         Dual fluid (Chilled water + DX Air Cooled)         Dual fluid - Chilled water + DX Water Cooled         Freecooling         EconoPhase				**************************************		×	22 211 211		a ₩	2 2 2 1 2 1 1		

					Double (	Circuit					
Model		PX044	PX054	PX062	PX068	PX074	PX092	PX082	PX094	PX104	PX120
Total Gross Cooling Capacity	kW	61.0	72.8	80.4	90.1	94.5	113.3	111.8	126.3	133.4	153.4
Net Sensible Cooling Capacity	kW	59.0	69.3	76.6	87.5	89.8	109.3	106.6	120.1	126.5	146.5
SHR		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Net Sensible EER		5.19	4.80	3.28	5.60	4.34	4.38	4.46	4.33	4.35	4.22
Airflow	m³/h	12500	15500	16300	18500	17600	17950	24000	26000	27000	27000
Max. ESP	Pa	300	200	200	300	80	180	250	150	100	100
Dimensions (WxD)	mm	1750x 890	1750x 890	1750x 890	2550x 890	1750 x890	1750x 890	2550x 890	2550x 890	2550x 890	2550x 89
Height (H)	mm	1970	1970	1970	1970	1970	2570	1970	1970	1970	1970
Weight	kg	638	642	680	887	680	776	931	931	931	954
Minimum Nominal Capacity Modulation		10%	10%	10%	10%	10%	10%	12,5%	12.5%	12,5%	12,5%
Airflow Delivery         Down Flow UP - Fans Over t         Up Flow         Frontal         Downflow Down - Fans in Rational States			↓ ↑ ↓		↓ ↑ €	↓ ↑ ♪			↓ ↑ ♪		
<ul> <li>Cooling Version</li> <li>Air Cooled</li> <li>Water Cooled</li> <li>Dual fluid (Chilled water + DX Air Cooled)</li> <li>Dual fluid - Chilled water + DX Water Cooled</li> <li>Freecooling</li> <li>EconoPhase</li> </ul>			2			E	≋ ₩		∭ 2≊ 2 <b>∷</b>		

Performances at 37°C 24% - 45° C condensing temperature Nominal ESP 20 Pa  $\,$  Fan over the floor  $\,$ 



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