

# PowerWAVE 6000

(S3 60–120 kVA)

(6000 160–500 kVA)

Parallelable up to 5 MVA/MW



The best combination of energy efficiency, reliability and low cost of ownership – capacity from 60 kVA/kW to 5 MVA/MW.

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## PowerWAVE 6000

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Single unit capacities from 60 kVA/kW to 500 kVA/kW

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Capacity up to 5 Megawatts (5 MVA/MW) with 10 units in parallel

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Power density of up to 363 kW/m<sup>2</sup>

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High efficiency and minimum cost of ownership

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Low input harmonic distortion: THDi =3.5%

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Near unity input power factor of 0.99

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Fully rated output power (blade friendly)

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Full front access maximises system serviceability

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Transformerless design

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Three-phase UPS with unity power delivers the best combination of availability, energy efficiency, overall power performance and lowest total cost of ownership in its class.

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Offering both intelligent energy management and maximum power protection it uses less energy, achieves significant cost reductions, saves on valuable floor space (leaving room for revenue-earning equipment) and has a reduced impact on the environment.



## Improved input performance

Low input harmonic distortion (THDi)

Near unity input power factor

Reduced installation costs

PowerWAVE 6000 manages the Total Input Harmonic Distortion (THDi) at a low level (3.5% at 100% load). It does this by neutralising the emission of harmonics at the input of the UPS. Low harmonic distortion saves unnecessary oversizing of generators, cabling and ancillary equipment (such as circuit breakers), avoids extra heating of input transformers (thus wasting less energy) and extends the lifetime of all input components.

High efficiency is further enhanced by removing any requirement for additional phase compensating devices.

## Flexible batteries

Bespoke configuration

Extended battery life

Front access for ease of installation and servicing

PowerWAVE 6000 allows the freedom to tailor the battery installation to the requirements of the critical load at the lowest possible cost. By adding external battery cabinets, it enables each battery configuration to match the required autonomy, ensuring smallest system footprint and easy usability.

Running costs are further reduced by ripple-free and temperature controlled chargers that protect batteries and extend life-time performance. Front access also aids easy installation and servicing.

## Product range

### 60–120 kVA



#### Dimensions W x D x H (mm)

550 x 750 x 1820  
Footprint: 0.3 m<sup>2</sup>

### 160–200 kVA



#### Dimensions W x D x H (mm)

850 x 750 x 1820  
Footprint: 0.64 m<sup>2</sup>

### 250–300 kVA



#### Dimensions W x D x H (mm)

1100 x 750 x 1920  
Footprint: 0.82 m<sup>2</sup>

### 400–500 kVA



#### Dimensions W x D x H (mm)

1650 x 850 x 1994  
Footprint: 1.4 m<sup>2</sup>

## Blade friendly

Supports high powered servers such as blade servers

Supports leading power factors

Blade servers typically have a leading power factor and this can present problems to those UPS systems that are not designed to manage such loads. The PowerWAVE 6000 is designed to power all types of electrical loads, including high-powered servers. It can provide fully rated output power to power factors from 0.9 leading to 0.9 lagging.

## Space saving

Reduced footprint

Valuable floor space maximised

PowerWAVE 6000's class-leading power density (up to 363 kW/m<sup>2</sup>) is driven by the UPS's small physical footprint of 0.3 m<sup>2</sup> up to 100 kVA/kW, 0.64 m<sup>2</sup> up to 200 kVA/kW, 0.82 m<sup>2</sup> up to 300 kVA/kW, and 1.4 m<sup>2</sup> up to 500 kVA/kW. As a result, substantial and valuable space savings are achieved even at the highest power ratings.

For data centres in particular, this helps to maximise floor space for revenue-earning servers.

## Connectivity

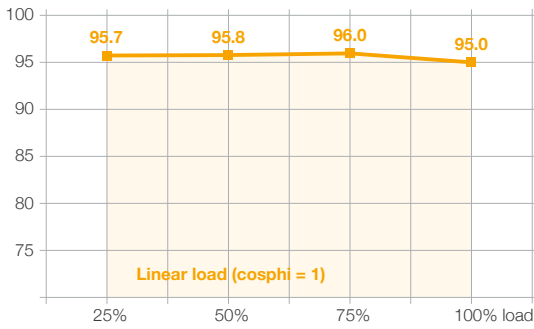
Multiple interface options

Supports monitoring and control

PowerWAVE 6000 is equipped with multiple interfaces that can be used for local and remote monitoring, status signalling, control, maintenance and firmware upgrade.

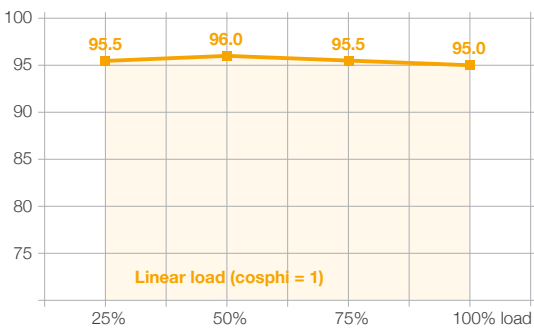
# Understanding efficiency and power

AC-AC efficiency (60–120)



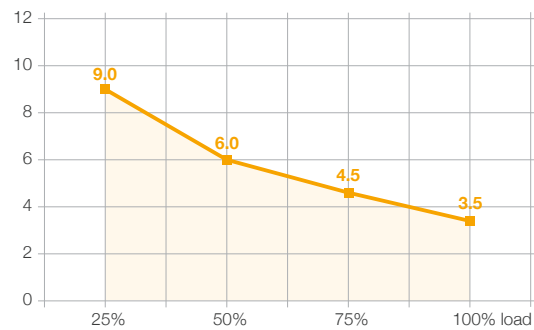
Top-of-market 96.0% efficiency in double conversion mode reduces running costs without compromising reliability. This UPS has a very flat efficiency curve so high efficiency is reached at low load levels.

AC-AC efficiency (160–500)



With a transformerless design and Energy Saving Inverter Switching (ESIS) technology, the PowerWAVE 6000 delivers high efficiency at partial and full load (up to 96.0% in double conversion online mode). This level of efficiency dramatically reduces the total cost of ownership of the UPS system during its life cycle.

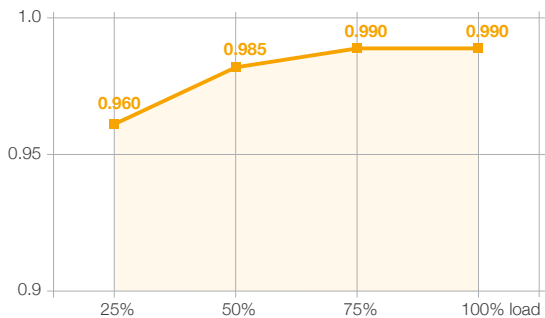
Input current total harmonic distortion (THDi)



The PowerWAVE 6000 actively manages the input current total harmonic distortion (THDi) at a low level (3.5% at 100% load). PowerWAVE's unique technology neutralises the emission of harmonics at the input of the UPS system, providing greater reliability of operations for circuit breakers and extending the overall service life of the equipment.

Low harmonic distortion saves unnecessary oversizing of gensets, cabling and circuit breakers, avoids extra heating of input transformers and extends the overall service life of all upstream components.

Input power factor versus load



Thanks to the near-to-unity input power factor of 0.99, the PowerWAVE 6000 reduces the input installation costs by enabling the use of smaller cables. Furthermore, it avoids the unnecessary use of additional phase compensating devices, which consequently keeps the overall UPS efficiency high.

Uninterruptible  
**Power**  
 Supplies Ltd   
 A **KOHLER** COMPANY




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(S3 60–120 kVA)

(6000 160–500 kVA)

Parallelable up to 5 MVA/MW

## Technical Specification



# PowerWAVE 6000 / PowerWAVE 6000 S3

General data	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA	250 kVA	300 kVA	400 kVA	500 kVA	
Topology	True online double conversion										
Parallel configuration	Up to 10 units										
UPS type	Standalone										
Cable entry	Bottom front								Bottom front or top		
<b>Input</b>											
Nominal input voltage	3 × 380 / 220 V + N, 3 × 400 / 230 V + N, 3 × 415 / 240 V + N										
Voltage tolerance (ref. to 3 × 400 / 230 V)	For loads < 100% (-23%, +15%), < 80% (-30%, +15%), < 60% (-40%, +15%)										
Input distortion THDi	≤ 3.5% at 100%										
Frequency	35–70 Hz										
Power factor	0.99 at 100% load										
<b>Output</b>											
Output power max.	60 kW	80 kW	100 kW	120 kW	160 kW	200 kW	250 kW	300 kW	400 kW	500 kW	
Output power factor	1.0										
Rated output voltage	3 × 380 / 220 V + N, 3 × 400 / 230 V + N, 3 × 415 / 240 V + N										
Voltage distortion	< 2%										
Frequency	50 or 60 Hz										
Overload capability	10 min.: up to 125 % or 1 min.: up to 150%										
Unbalanced load	100% possible										
Crest factor	3:1										
<b>Efficiency</b>											
Overall efficiency	Up to 96%										
In eco-mode configuration	≥ 99%				98%						
<b>Environment</b>											
Storage temperature	-25–70 °C										
Operating temperature	0–40 °C										
Altitude configuration	1000 m without derating										
<b>Battery</b>											
Battery type	Maintenance-free VRLA or NiCd										
<b>Communications</b>											
Graphical display	Optional							Yes			
<b>Standards</b>											
Safety	IEC / EN 62040-1										
Electromagnetic compatibility (EMC)	IEC / EN 62040-2										
Performance	IEC / EN 62040-3										
Product certification	CE										
Protection rating	IP 20										
Manufacturing	ISO 9001, ISO 14001										
<b>Weight/Dimensions for PowerWAVE 6000 S3 60–120 kVA</b>											
Weight (without batteries)	230 kg	240 kg	245 kg	280 kg							
Dimensions (mm) W x D x H	615 x 480 x 1945			850 x 750 x 1820							
<b>Weight/Dimensions for PowerWAVE 6000 160–500 kVA</b>											
Weight (without batteries)					290 kg	310 kg	390 kg	410 kg	950 kg	1000 kg	
Dimensions (mm) W x D x H					850 x 750 x 1820		1100 x 750 x 1920		1650 x 850 x 1994		

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