

Kell Systems PSE air-cooled acoustic server rack enclosures v7.6

Noise reduction performance

Server noise attenuation: 18.5 dBA broadband noise reduction, measured 1.0 m / 39" in front of the cabinet
(Representing the elimination of 98.5% of server noise)

Practical explanation:

The field of acoustics is not an area familiar to many IT managers and therefore the following guidelines are offered.

"dBA" is the common measurement unit used to quantify Sound Pressure Level (SPL), which is technical terminology for "how loud things are". As usual with these things, there's no need for the end user to fully understand dBA. The things that matter are how many or how few of them there are, and what that means in the real world. For reference, here are some widely-accepted examples of SPL ratings that are relevant when installing servers in the workplace:

- 50 dBA Background noise in an average office, without speech
- 55 dBA Background noise in a busy office, without speech
- 60 dBA Normal conversational speech

- 45 to 50 dBA Typical noise from fully integrated or cassette-type building air conditioning
- 55 dBA + Typical noise from portable air conditioners

- 62 dBA Typical noise from 2 x low form factor servers with average CPU loads
- 65 dBA Typical noise from 4 x low form factor servers with average CPU loads
- 68 dBA Typical noise from 8 x low form factor servers with average CPU loads
(every doubling of the number of servers leads to a 3 dBA increase in the total noise level)

In order for an installation to become unobtrusive in an office environment, the noise from the servers and other hardware in the installation must be reduced to the level of the general office background noise. At such reduced levels, the human brain perceives the noise from the servers as part of the overall background noise, and it will go unnoticed on a day-to-day basis, in much the same way that the hum from most built-in office air conditioning systems do.

The following tables give a guide to how this is achieved by the use of Kell Systems PSE enclosures.



About Kell Systems

Kell Systems has pioneered the design and manufacture of Portable Server Environments (PSEs), the first complete solution for deployment of servers and network hardware directly in the office workplace. Kell PSEs are an award-winning new concept and a very real, self-contained alternative to building computer rooms. Kell PSEs are exported throughout the world and are installed in locations from Bali to Bratislava and from Hawaii to Hong Kong.

Kell Systems Ltd. is a privately-held English company founded in 2003, headquartered in Marlow, Buckinghamshire, with its manufacturing and distribution facility in Frome, Somerset.

Kell Systems Inc. is a subsidiary company of Kell Systems Ltd, with offices and showrooms in Chantilly, Virginia (Washington D.C. area). Kell Systems Inc. warehouses inventory and manages its own distribution operations in the USA.

Kell Systems (Vertrieb Deutschland) is Kell Systems' sales office in Germany and Kell Systems (Ventas España) is Kell Systems' sales office in Spain.

Kell Systems Ltd,
Regency House
Mere Park, Dedmere Road
Marlow
Buckinghamshire SL7 1FJ
England
T :: +44 (0) 1628 474757
Email :: info@kellsystems.co.uk
Web :: www.kellsystems.co.uk

Kell Systems Vertrieb Deutschland

T :: +49 30 303 661 988
Email :: info@kellsystems.de
Web :: www.kellsystems.de

Kell Systems Ventas España

T: +34 91 636 2961
Email :: info@kellsystems.es
Web :: www.kellsystems.es

Kell Systems Inc, USA.
14141 Robert Paris Ct.
Chantilly
VA 20151, USA
T :: +1 703 818 0033
Email:: info@kellsystems.com
Web:: www.kellsystems.com

Kell Systems Manufacturing
Ashton Park
Handlemaker Road
Frome
Somerset, BA11 4RW
England
T :: +44 (0) 1373 452 334
Email:: aftersales@kellsystems.co.uk

Kell Systems' Ashton Park manufacturing facility

