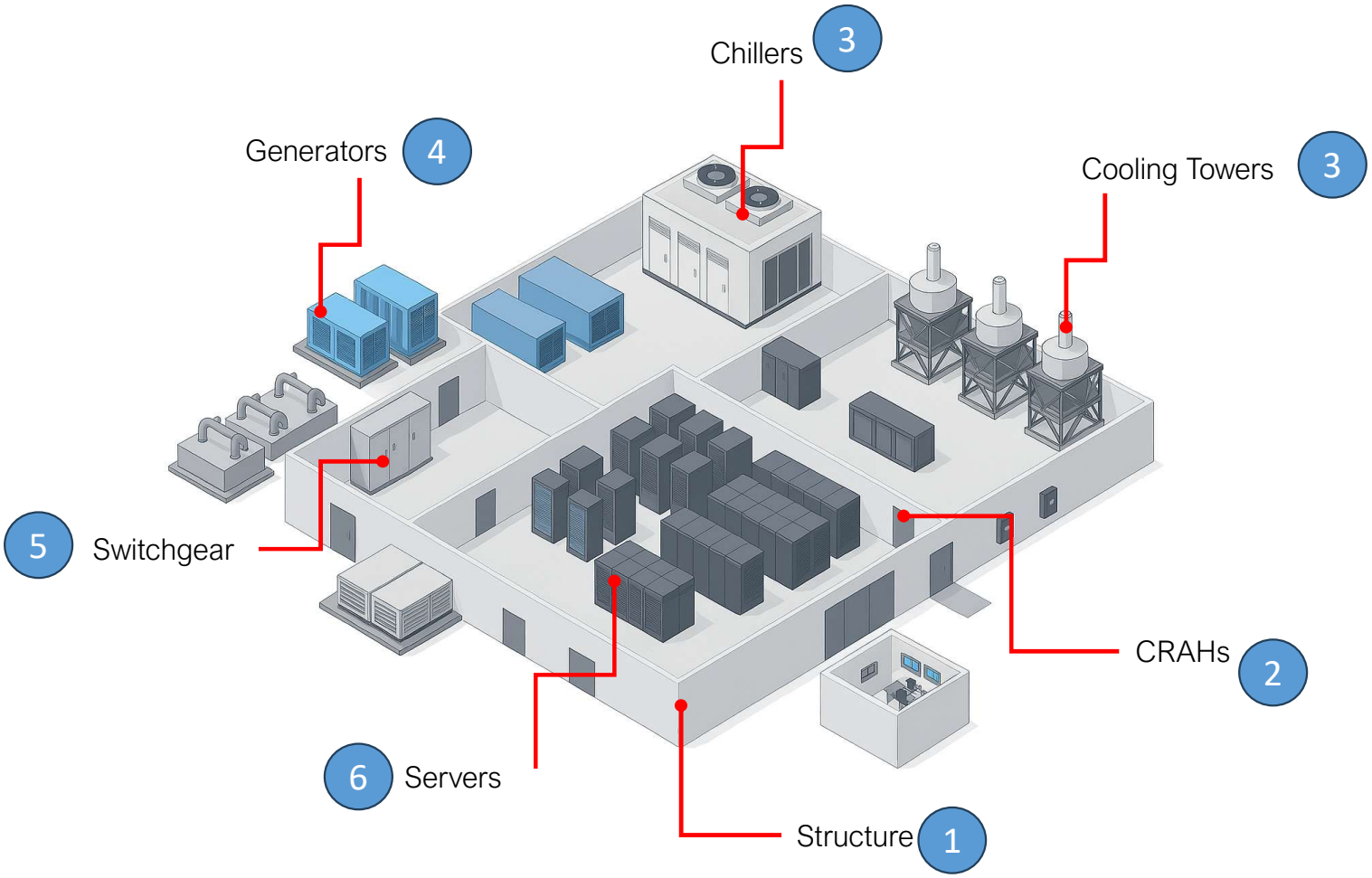
Data Centres

Modern data centres depend on absolute stability. Even low-level vibration or minor thermal transfer can disrupt IT performance, increase failure rates, and reduce operational efficiency. TICO provides engineered solutions that safeguard critical environments from structural vibration, mechanical noise, and thermal bridging—helping protect equipment, maintain service continuity, and enhance long-term building integrity.

Typical Data centre Layout



1 Structural Isolation

Whole Structure Isolation

TICO structural bearings decouple an entire building from external vibration sources such as rail lines, heavy plant, and industrial activity. By isolating the superstructure from ground-borne vibration, these systems protect sensitive equipment, improve occupant comfort, and reduce long-term structural fatigue. This approach is ideal for datacentres requiring precise environmental stability across all operating conditions.

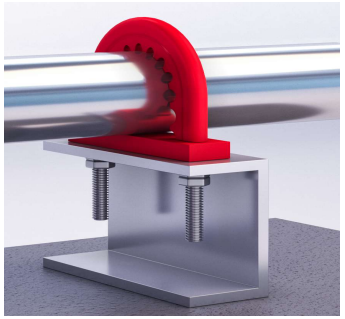
Floating Floors

Floating floors provide an isolated platform that prevents vibration entering server halls through the base structure. By separating the finished floor from the slab or steelwork, vibration from CRAHs, pumps, footfall, and nearby plant is prevented from reaching performance-critical equipment. This reduces micro-vibration, lowers failure rates, and supports consistent performance in high-density, high-I/O environments. Floating floors integrate efficiently with raised access systems and scale well for future capacity expansion.

Thermal Breaks

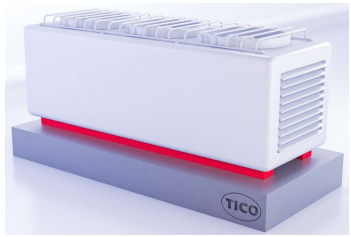
Thermal breaks minimise heat transfer through structural connections, preventing cold bridging and supporting precise environmental control. For datacentres, even small temperature variations can affect cooling efficiency and energy consumption. TICO thermal breaks reduce heat conduction through steelwork, façade interfaces, and equipment frames—lowering cooling loads, preventing condensation risk, and helping maintain an energy-efficient building envelope.

2 CRAHs (Computer Room Air Handler)



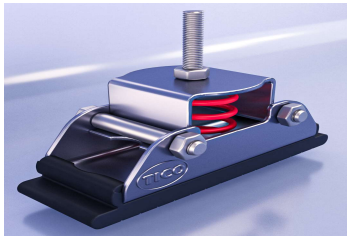
Pipe Isolation

Pipes often act as rigid transmission paths, carrying vibration from pumps, chillers, and CRAH units directly into sensitive areas. TICO pipe isolation prevents this by isolating supports, reducing vibration transfer, and improving acoustic performance. This also minimises mechanical fatigue within pipework systems, extending service life and ensuring stable cooling operation.



Anti-Vibration Pads

TICO anti-vibration pads absorb vibration generated by CRAHs, chillers, and cooling towers. By preventing vibration from entering floors and surrounding structures, they protect servers from micro-vibration, maintain quiet operating environments, and reduce stress on mechanical frames and fixings. These pads are suitable for both new installations and retrofit projects.



Spring Anti-Vibration units

Spring mounts provide deep isolation for very low-frequency vibration produced by rotating machinery. Combined with TICO elastomer damping, they control movement under load and prevent vibration transfer into structural frames. This improves cooling stability, protects IT hardware, and enhances acoustic comfort—making them ideal for high-performance datacentres with strict vibration criteria.

3 Cooling Towers / Chiller Units

Anti-Vibration Pads

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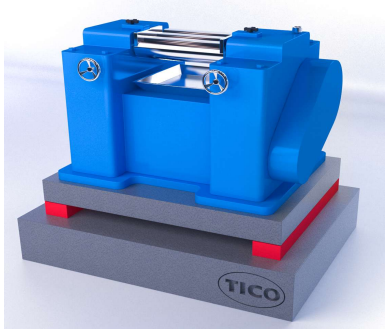
Bolt Isolation

Rigid bolts can bypass other isolation systems by creating direct metal-to-metal contact. TICO isolating sleeves and washers interrupt this path, significantly improving overall system performance, reducing noise, and protecting surrounding sensitive areas. This low-cost measure notably increases the effectiveness of existing vibration control solutions.

Thermal Breaks

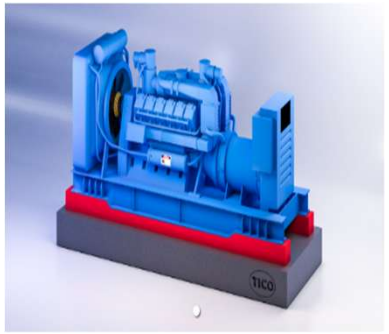
Chillers and cooling towers typically sit outside the thermal envelope. Without isolation, their support frames act as heat-transfer points into the building. TICO thermal breaks prevent unwanted thermal conduction, stabilising internal temperatures, lowering cooling demand, and protecting structural interfaces from condensation risks.

4 Generators



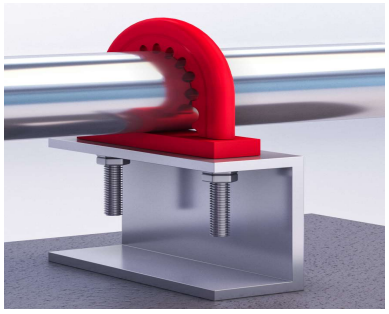
Plinth and Pit installations

Generators installed on plinths or within pits require specialised systems to manage low-frequency vibration and heavy dynamic loads. TICO solutions prevent vibration amplification within pits and stop transmission into surrounding rooms—including noise-sensitive data halls—while improving structural protection of the equipment.



High-Duty TICO

Generators produce strong vibration during start-up, load transitions, and testing cycles. TICO high-duty pads absorb and dissipate this energy, reducing structural noise transmission, protecting adjacent IT spaces, and improving generator stability. Engineered for high loads and harsh conditions, they deliver reliable long-term performance and reduce maintenance requirements.



Pipe Isolation

Generator exhaust, fuel, and coolant lines can transmit vibration if not isolated. TICO pipe isolation solutions control pulsation and movement at the source, reducing stress on supports and extending pipework life. This ensures quieter, more stable operation, especially during high-vibration events like testing and load changes.

5 Switchgear

Low Frequency Anti-Vibration

Switchgear produces subtle but continuous vibration and electrical hum. TICO pads prevent these vibrations from travelling into floors and walls, improving acoustic conditions in adjacent areas and extending equipment life. They require no maintenance and are quick to install, making them a cost-effective upgrade for electrical rooms.

Bolt Isolation

TICO bolt isolation systems eliminate rigid contact points in switchgear assemblies, preventing vibration from bypassing pad systems. This enhances acoustic performance, protects electronic systems from micro-vibration, and reduces fatigue in fixings—strengthening the reliability of the entire installation.

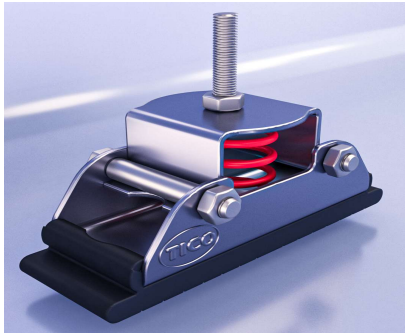
Adjustamounts

Adjustamounts combine precision levelling with vibration damping, ensuring heavy equipment sits securely without rocking or amplifying vibration. They simplify installation on uneven floors or raised access panels and improve both performance and longevity.

6 Server Units & White Space

Floating Access Floor isolation

By isolating raised access floor pedestals and assemblies, TICO solutions prevent building-borne vibration from reaching sensitive server racks. This is essential for modern high-I/O servers, where even minor vibration can affect read/write performance, latency, and long-term reliability. These systems integrate cleanly with airflow and cable-routing requirements.



Spring Anti-Vibration units

For the most demanding environments, spring units provide exceptional control of ultra-low-frequency vibration. Positioned under heavy racks or floor support points, they absorb structural movement and mechanical vibration to ensure stable compute environments and reduce vibration-related faults.

Adjustamounts

TICO Adjustamounts provide both levelling and damping for server racks and network cabinets. By removing rocking and minimising vibration transfer, they improve hardware performance, reduce error rates, and simplify installation across uneven surfaces.

TICO: Precision Solutions for High-Performance Data centres

TICO systems are engineered to improve reliability, reduce vibration-related risks, and support the stable thermal and mechanical environments that modern data centres depend on. From entire-building isolation to rack-level stability, every solution is designed to enhance uptime, reduce maintenance, and protect mission-critical operations.