Active Isolation System AIS™ High Performance

AIS™ Active Isolation System

Active vibration isolation in 6 degrees of freedom offering the best possible isolation effect

FUNCTION

With an elastic machine mount on vertical air springs (such as Bilz BiAir ®-ED) the isolated mass is carried on a volume of air enclosed by a membrane in the interior of the isolator. Because of the elastic properties of this air spring membrane the isolator has free movement in the vertical axis, and also a limited movement in the horizontal plane.

For extremely sensitive and high-precision applications, which must be mounted with 6 degrees of freedom, these slight horizontal elastic properties can have undesired influence on the work results.

In this case the HAB horizontal air spring is used purely as an air bearing to reduce frictional effects; the required horizontal counter forces are generated by additional BiAir®air springs. These additional BiAir® air springs are installed, rotated 90° from the horizontal plane, and replace the air tubes of the regular HAB™ air springs (see the Horizontal air springs section).

ADVANTAGES

- Best possible isolation properties specifically for applications with critical limit curves in the low frequency range.
- For applications with higher horizontal dynamics significantly higher counter forces can be realized by the additional BiAir® air springs than with standard AIS with 6 degrees of freedom.