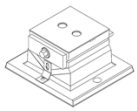
INSTALLATION INSTRUCTIONS

for the correct installation of isoloc Machine Setup Systems MULTI*DAM* MD+UMS (pat.)



General installation guidelines:

Before installing the machine or plant, the area around the bearing surface must be free from oil and grease in order to give optimum anti-slip protection. Rough concrete should be given a clean smooth coating. The admissible evenness and angle tolerances on the upper side of the bearing surfaces and on the lower side of the machine pedestals base on DIN 18202. Localized loads have to be avoided. It should additionally be ensured that the specified maximum load indexes (F_{max}) of the elements are not exceeded. If they are not known, please ask us. If the centre of gravity of the machine is not central, larger elements have to be used at the higher loaded mounting points, if necessary.

All MULTI*DAM*-elements MD+UMS have to be adjusted to medium height (check with a precision spirit level if necessary) and the machine lowered **carefully** on to them. If the **MULTI*DAM*-elements are equipped with Vibration Insulation Packs IPK,** each element has to be adjusted to the maximum height before lowering the machine – then levelling is carried out downwards. **The machine can no longer be shifted in the x- or y-axis after it has been placed down!** The machine shoes have to be loaded **on their full area**, if possible – on at least 75 % of the support surface. This support surface has to be chosen in cross direction to the levelling spindle of the UMS. **If the load is applied one-sidedly or localized, there is the danger of tipping or breaking!**
Levelling has to be performed with a torque spanner employing the appropriate spanner size for the levelling spindle. The torque spanner should be set to the maximum torque in Nm: MD+UMS5 approx. 34 Nm, MD+UMS8 approx. 69 Nm, MD+UMS18 approx. 190 Nm, MD+UMS45 approx. 246 Nm, MD+UMS100 approx. 1,100 Nm. A height adjustment of 0.20 mm for MD+UMS5 and 0.30 mm for MD+UMS8, MD+UMS18 as well as MD+UMS45 is achieved with each revolution of the adjustment spindle. In order to judge the unevenness of the floor between two mounting points, half of the levelling range of our MULTI*DAM*–elements MD+UMS has to be taken as a basis. E. g. the maximum floor slope between two MD+UMS5 has to be 4.5 mm if the shoe in question is supported on the entire mounting surface as the levelling range of UMS5 is 9 mm. The adjustment ranges are: MD+UMS5 +5/-4 mm, MD+UMS8 and MD+UMS18 +6/-4 mm, MD+UMS45 ± 7 mm, MD+UMS100 ± 10mm. Please pay attention that the admissible floor slope within a mounting surface is not exceeded that is defined in DIN 18202 irrespective of the elastic elements. For the unevenness of the floor between two setup points that is more than half of the levelling range, distance plates of sheet steel and GPL have to be used. Please note that our vibration insulation panels can deform afterwards under load (so-called creeping). This deformation process is finished after 24 – 48 hours.

The indicated adjustment ranges of the MD+UMS elements must by no means be exceeded as otherwise damages of the adjustment wedges or of the Machine Shoes UMS occur. Particular care must be taken to ensure that, after levelling, all MD+UMS elements are (uniformly) loaded.
Both inclined surfaces of the vibration insulation panels / vibration insulation packs have to be directed always to the highest horizontally acting force.

1.0 MULTI*DAM*-elements MD+UMS-ASF free-standing – without anchoring

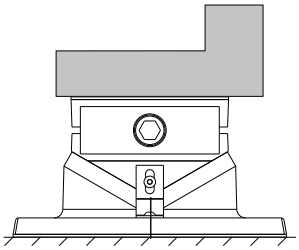


image: MD+UMS-ASF free-standing

	isoloc panels	UMS
MD+UMS top side	anti-slip panel	two bore holes
MD+UMS bottom side	anti-slip panel	two threads

- To be placed as far away from the middle of the machine as possible. For free-standing use the MD+UMS top side may not be utilized without anti-slip panels.

1.1 MULTI*DAM*-elements MD+UMS-ASF screw-on to the machine

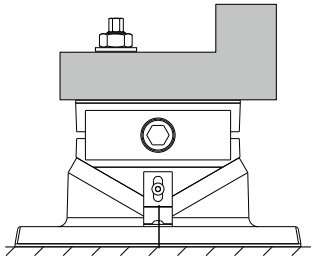


image: MD+UMS-ASF screw-on

	isoloc panels	UMS
MD+UMS top side	anti-slip panel	two bore holes
MD+UMS bottom side	anti-slip panel	two threads

- To be placed as far away from the middle of the machine as possible.
- Machine shoe always to be screwed on **loosely** through a bore hole of the machine foot employing a **single** threaded rod, corresponding to the bore holes provided in the machine body. Turn in the threaded rod by hand in the UMS.
- Hold the threaded rod at the upper hexagon with a combination- / ring wrench and tighten it at the machine foot by means of the provided nut.

CAUTION! It may only be levelled if the threaded rod is vertical and untightened!

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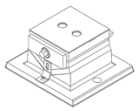

1.2 MULTI*DAM*-elements MD+UMS-ASF with substructure rails, free-standing – without anchoring

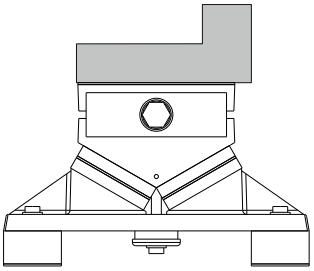

image: MD+UMS-ASF with substructure-rails, free-standing

	isoloc panels	UMS
MD+UMS top side	anti-slip panel	two bore holes
MD+UMS bottom side	anti-slip panel	two threads

To be placed as far from the middle of the machine as possible. For free-standing use the MD+UMS top side may not be utilized without anti-slip panels. The MD + UMS – element is provided with already mounted substructure rails.
If the mass distribution of the machine is even all elements deflect equally. If the mass distribution is asymmetric the elements deflect differently. In this case the elements that have deflected less can be retightened by the screw located in the centre of the bottom side as long as the static deflections of all elements are nearly the same. Particularly if very elastic (soft) equipments of the MULTI*DAM* MD+UMS are used this possibility for adjustment is important.

1.3 MULTI*DAM*-elements MD+UMS-ASF with substructure rails, screw-on to machine

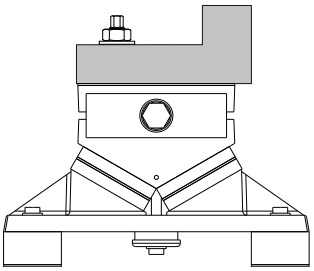

image: MD+UMS-ASF with substructure rails, free-standing

	isoloc panels	UMS
MD+UMS top side	anti-slip panel	two bore holes
MD+UMS bottom side	anti-slip panel	two threads

To be placed as far from the middle of the machine as possible. For free-standing use the MD+UMS top side may not be utilized without anti-slip panels. The MD + UMS – element is provided with already mounted substructure rails.
If the mass distribution of the machine is even all elements deflect equally. If the mass distribution is asymmetric the elements deflect differently. In this case the elements that have deflected less can be retightened by the screw located in the centre of the bottom side as long as the static deflections of all elements are nearly the same. Particularly if very elastic (soft) equipments of the MULTI*DAM* MD+UMS are used this possibility for adjustment is important.

Screw-on to the machine:
- Machine shoe always to be screwed on **loosely** through the bore hole of the machine foot by means of a **single** threaded rod, corresponding to the bore holes provided in the machine body. Turn in the threaded rod by hand in the UMS.
- Hold the threaded rod at the upper hexagon with a combination- / ring wrench and tighten it at the machine foot by means of the provided rod after levelling.

CAUTION! It may only be levelled if the threaded rod is vertical and untightened!

1.4 MULTI*DAM*-elements MD+UMS – floor anchoring

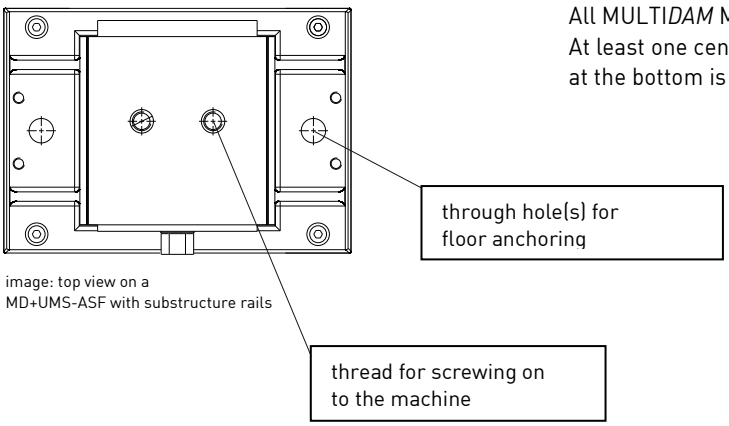

image: top view on a MD+UMS-ASF with substructure rails

All MULTI*DAM* MD+UMS elements permit floor anchoring.
At least one central bore hole each in the lateral surfaces of the supporting plate at the bottom is provided.