INSTALLATION INSTRUCTIONS

for the correct installation of isoloc Universal Precision Machine Shoes (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 UMS have to be used at the higher loaded mounting points, if necessary.

If the isoloc machine shoes are equipped with Vibration Insulation Panels IPL of different thicknesses, then the thin Anti-Slip Panel GPL must always be on top, next to the machine. All machine shoes 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 UMS are equipped with Vibration Insulation Packs IPK, each UMS 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** – on at least 75 % of the support surface. This support surface has to be chosen in cross direction to the levelling spindle. **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: UMS5 approx. 34 Nm, UMS8 approx. 69 Nm, UMS18 approx. 190 Nm, UMS30 approx. 200 Nm, UMS45 approx. 246 Nm, UMSD35 approx. 748 Nm, UMS100 approx. 1,100 Nm. A height adjustment of 0.20 mm for UMS5, 0.30 mm for UMS8 and UMS18, 0.30 mm for UMS30 and UMS45 as well as 0.25 mm for UMSD35 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 machine shoes has to be taken as a basis. E. g. the maximum floor slope between two 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: UMS5 +5/-4 mm, UMS8 and UMS18 +6/-4 mm, UMSD35 ± 10mm, UMS30 +9/-5 mm, UMS45 ± 7 mm, 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 Machine Shoes UMS 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 machine shoes are (uniformly) loaded.

1.0 Universal Precision Machine Shoe *UMS-ASF and UMS-DSF free-standing – without anchoring*

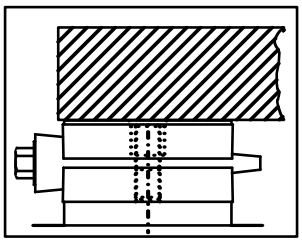

image: UMS-ASF

	isoloc panels	UMS-ASF	UMS-DSF
UMS top side	Anti-Slip Panel GPL	two bore holes	two bore holes
UMS bottom side	Insulation Panel IPL	two threads	two bore holes

To be placed as far away from the middle of the machine as possible. For free standing use, the UMS top side has to be equipped with anti-slip panels.

Apart from this, the basic installation instructions indicated above apply.

1.1 Universal Precision Machine Shoe *UMS-ASF screw-on*

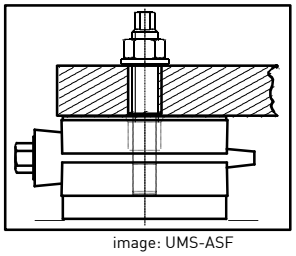

image: UMS-ASF

	isoloc panels	UMS-ASF
UMS top side	Anti-Slip Panel GPL	two bore holes
UMS bottom side	Insulation Panel IPL	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 the 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 just before the insulation panel on the bottom.
- 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, **max. ¼ revolution! Please use no torque wrench!**

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

Apart from this, the basic installation instructions indicated above apply.

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updated: 13.09.2017

INSTALLATION INSTRUCTIONS

for the correct installation of isoloc Universal Precision Machine Shoes (pat.)

1.2 Universal Precision Machine Shoe *UMS-ASA and UMS-ASA-Z screw-on, with inclination compensation*

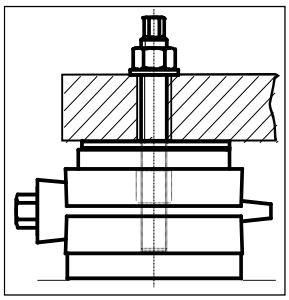


image: UMS-ASA

	isoloc panel	UMS-ASA | UMS-ASA-Z
UMS top side	none	sphere ring
UMS bottom side	Insulation Panel IPL	two threads

- To be placed as far from the middle of the machine as possible.
- Machine shoe always to be screwed on **loosely** through the 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 just before the insulation panel on the bottom.
- 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, **max. ¼ revolution! Please use no torque wrench!**

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

Apart from this, the basic installation instructions indicated above apply.

1.3 Universal Precision Machine Shoe *UMS-DSF/UMS-KDS through-hole*

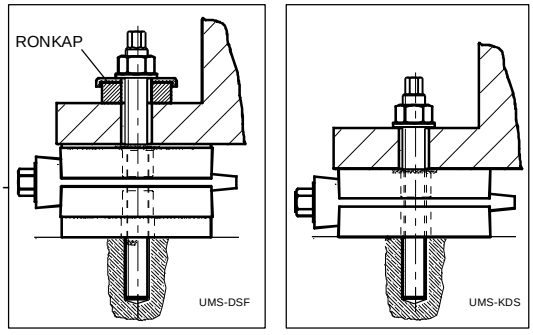


image: UMS-DSF with RONKAP through-hole and UMS-KDS

RONKAP 1	**M16:** 26 Nm **/ M20:** 28 Nm
RONKAP 2	**M20:** 57 Nm **/ M24:** 67 Nm
RONKAP 3	**M24:** 138 Nm **/ M30:** 170 Nm

chart: tightening torques for Insulation Discs RONKAP

	UMS-DSF	UMS-KDS	UMS-DSF/UMS-KDS
UMS top side	Anti-Slip Panel GPL	no GPL	two bore holes
UMS bottom side	Insulation Panel IPL	no IPL	two bore holes

- Mark bore holes.
- To be placed as far from the middle of the machine as possible.
- Machine shoe always to be screwed through the bore hole of the machine foot employing a **single** threaded rod, corresponding to the bore holes provided in the machine body.
- 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.

In order to guarantee the insulation effect with anchoring, kindly note when using the UMS-DSF:

- Insert Insulation Discs RONKAP beneath the bolt head or the nut (no insulation disc is necessary for UMS-KDS).
- 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.
- **Pay attention to the maximum load on the machine shoe = proportional machine load + preload force of screw** and observe the max. tightening torque of the RONKAP!

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

Apart from this, the basic installation instructions indicated above apply.

1.4 Universal Precision Machine Shoe *UMS-DSA/KDSA with floor anchoring and inclination compensation*

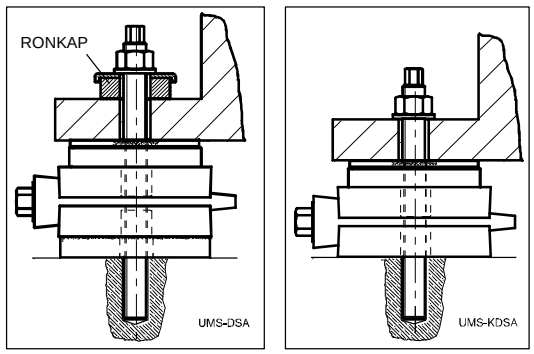


image: UMS-DSA with RONKAP through-hole and UMS-KDSA

RONKAP 1	**M16:** 26 Nm **/ M20:** 28 Nm
RONKAP 2	**M20:** 57 Nm **/ M24:** 67 Nm
RONKAP 3	**M24:** 138 Nm **/ M30:** 170 Nm

chart: tightening torques for Insulation Discs RONKAP

	UMS-DSA	UMS-KDSA	UMS-DSA/UMS-KDSA
UMS top side	sphere ring	sphere ring	two bore holes
UMS bottom side	Insulation Panel IPL	no IPL	two bore holes

These UMS-types can only be used in conjunction with floor anchoring!

- To be placed as far from the middle of the machine as possible.
- Machine shoe **always** to be screwed 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 after levelling.

- In order to guarantee the insulation effect despite anchoring, kindly note when using the UMS-DSA:

- Insert Insulation Discs RONKAP beneath the bolt head or the nut (no insulation disc is necessary for UMS-KDSA).
- 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.
- **Pay attention to the max. load on the machine shoe = proportional machine load + preload force of screw** and observe the max. tightening torque of the RONKAP!

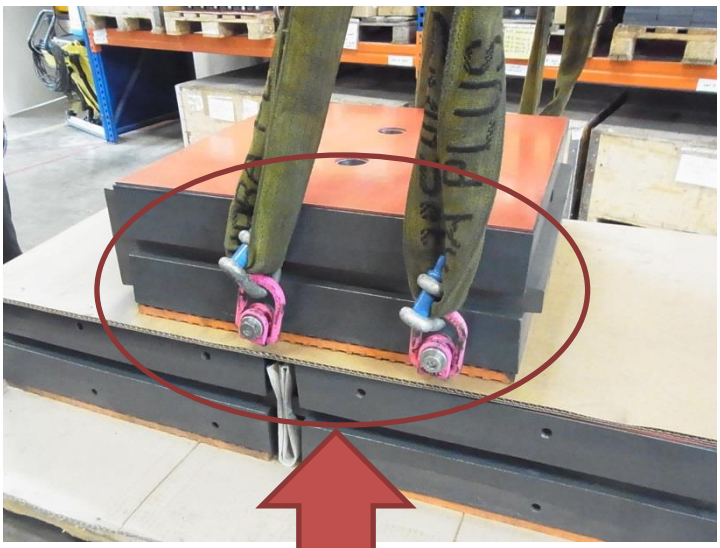
CAUTION! It may only be levelled if the threaded rod is vertical and untightened!

Apart from this, the basic installation instructions indicated above apply.

updated: 13.09.2017

1.5 Safety note for the transport of UMS100

It is absolutely necessary to transport the isoloc machine shoes with 4x crane eyes that have to be fixed at the base plate of the machine shoe in order to prevent the element from tilting. The head plate as well as the adjustment wedge rest loosely above. Furthermore, please note the industrial safety regulations for transports by cranes!



Please use the threaded holes for transport eyes at the base plate of the machine shoe!