

Mushroom knobs female thread with high head for Hygienic USIT® Freudenberg Process Seals sealing and shim washer

Item description/product images



Description

Material:

Steel parts stainless steel 1.4404.

Version:

High-gloss polished.

Note:

The high head makes the mushroom knob ideal for manual pull and push movements.

The complete surface is polished to a high gloss with a surface finish of much less than $Ra\ 0.8\ \mu m$. The contour is produced with generous radii and transitions. It doesn't matter in which position the mushroom knob is mounted, dirt and residue from products or cleaners seldom adheres. Easy cleaning is ensured.

The Hygienic USIT® sealing and shim washers from Freudenberg Process are used to seal the screw-on point. The shaft of the mushroom knob is specially designed to suit this seal. An almost cavity-free seal of the screw-on point is created which satisfies hygienic regulations.

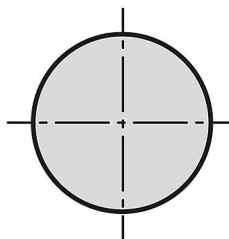
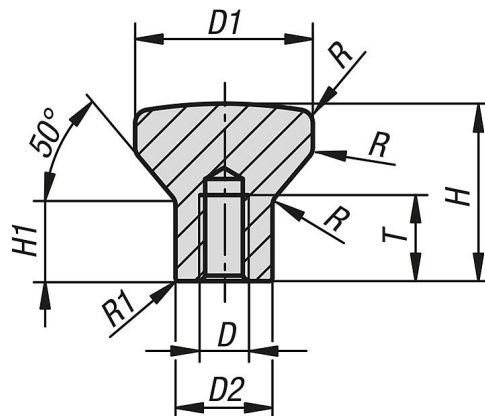
On request:

Inch threads, thread depths, form variations.

Accessory:

Hygienic USIT® sealing and shim washer K1491 for the screw-on surface.

Drawings



Mushroom knobs female thread with high head for Hygienic USIT® Freudenberg Process Seals sealing and shim washer

Overview of items

Mushroom knobs, female thread with high head, for Hygienic USIT® sealing and shim washer

Order No.	D	D1	D2	H	H1	T	R	R1
K1308.2004	M4	20	10,8	19	8	10	3	0,45
K1308.2105	M5	21	11,8	21	10	12	3	0,5
K1308.2506	M6	25	14,2	25	12	12	3	0,55
K1308.3308	M8	33	18	33	15	16	4	0,7
K1308.4010	M10	40	22,3	40	19	20	4	0,8

Technical Information

For hygienic sealing in and at the product area

Freudenberg's Hygienic USIT®, especially developed for the requirements of the process industry, establishes completely new standards of purity. The metal washer with elastomer bead seals reliably, statically and free of dead space.

Numerous plant and equipment manufacturers in the food and pharmaceutical industries still use conventional metallic washers for screw connections in or at the product area.

These washers are not EHEDG compliant. There is a risk that product residues accumulate under the screw head. The Hygienic USIT® developed for this application reliably prevents the formation of microfilms and corrosion.

It seals safely and consists exclusively of approved and tested materials.

The elastomer bead is available in three different EPDM variants.

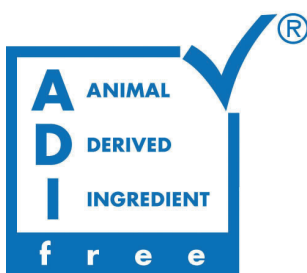
They are all suitable for areas coming into contact with the product in the food and pharmaceutical industry.

The black EPDM 291 is considered a classic compound in the process industry.

In the pharmaceutical industry, the white EPDM 253815 is particularly sought after.

For applications with fatty media, aggressive media or very high temperatures, we also offer the fluorinated material Fluoroprene® XP 45.

Material	Colour	Conformity/Approvals	Temperature range	Others
70 EPDM 291	black	- FDA 21 CFR 177.2600 - 3-A® SANITARY STANDARDS CLASS II - EU (VO) 1935/2004 AND 2023/2006 - USP CH. 87 AND CH. 88 – CLASS VI – 121 °C (250 °F) - NSF 51	-40 °C to +150 °C.	- ADI free
70 EPDM 253815	white	- FDA 21 CFR 177.2600 - 3-A® Sanitary Standards Class II - EU (VO) 1935/2004 and 2023/2006 - USP Ch. 87 and Ch. 88 – Class VI – 121 °C (250 °F)	-40 °C to +150 °C.	- ADI free
75 FLUOROPRENE® XP 45	blue	- FDA 21 CFR 177.2600 - EU (VO) 1935/2004 AND 2023/2006	-15 °C to +200°C.	- ADI free



Hygienic USIT®

Technical Information

Screw connection according to Hygienic DESIGN

The Hygienic USIT® is an evolution of the conventional standard Usit ring. It ensures the reliable hygienic sealing of a screw head. In addition, it allows easy cleaning in the CIP (Cleaning in Place), WIP (Washing in Place) or SIP (Sterilization in Place) process without dismantling of the equipment. Thanks to a cooperation with the company NovoNox, Usit rings including hygienic screws and cap nuts can be purchased. These special screw heads have been developed on the basis of DIN EN 1665 for product contact areas or aseptic insulators.

This combination prevents the medium from being able to get under the screw head. The risk of contamination and the formation of microfilms are thus excluded.

Thanks to a special manufacturing process, NOVOnox hygienic obtains a surface roughness of up to Ra 0.8 microns. As a result, recesses and sharp burr formations on the collar can be prevented.

In addition, screws and cap nuts with collar are polished to a high gloss. To fasten them consistently in accordance with Hygienic DESIGN, NovoNox has developed box nuts and associated protective inserts. They do not damage the screw when tightening.

For screw connections outside the product area, standard hexagon bolts with flange according to DIN EN 1665 are suitable. However, they do not meet the Hygienic DESIGN requirements regarding optimum cleanability. They are therefore not suitable for use in product contact areas.

The bond is available in the dimensions M4, M5, M6, M8, M10, M12 and M16. In addition there are M3 screws and cap nuts that are compatible with M4 washers.

Values to the customer

- Cavity-free solution
- Prevents microbial contamination
- Replaces inflexible welding solution
- Clearances/approvals for food and pharmaceutical industry
- No tooling costs for standard parts
- Cleaning with the CIP, SIP, WIP, COP, OPC and WOP processes

