



HEINRICH KIPP WERK



**NOVOnox** hygienic

Clamping Technology

Standard Elements

Operating Parts



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Reg. Nr. 002081 QM



## SERVICE HOURS

MONDAY-THURSDAY

07.00 am - 05.30 pm

FRIDAY

07.00 am - 15.30 pm



**HD\***

**Hygienic DESIGN – the new standard**

Operating parts and machine elements that fulfil the requirements of Hygienic DESIGN.

Radii, transitions, bevels, and surfaces are designed to impair wetting and can be easily cleaned or remain permanently unsoiled.

**Nothing adheres!**

Average surface finish  
Ra < 0.8 µm



**HU°**

**Hygienic USIT® – the new phenomenon in the process industries**

Hygienic USIT® is the new revolutionary sealing and fastening technology in one package with EHEDG certification. High-gloss polished surfaces, radii, bevels and form transitions are cavity-free.



Hygienic USIT® - a trademark of Freudenberg Sealing Technologies. NOVOnox developed the hygienic screw system for this special washer and matched them perfectly to each other. The cavity-free fastening point is made feasible.

**High-gloss polished!**

Material:  
1.4404 with Ra < 0.8 µm



**100 % seal!**

Hygienic USIT® seal and shim washer from Freudenberg Sealing Technologies.



**System unit!**

Collar for Hygienic USIT® seal and shim washer

Material:  
1.4404 with Ra < 0.8 µm





## Hygienic USIT® - give germs no chance

### The current status. Cavities. Not fully sealed.

Fastening points in process technology plant construction must be absolutely sealed and easy to clean. Cavities where product remains or cleaning fluids can accumulate unnoticed are to be prevented.

These create breeding grounds for germs and bacteria. A contamination is often just a question of time.

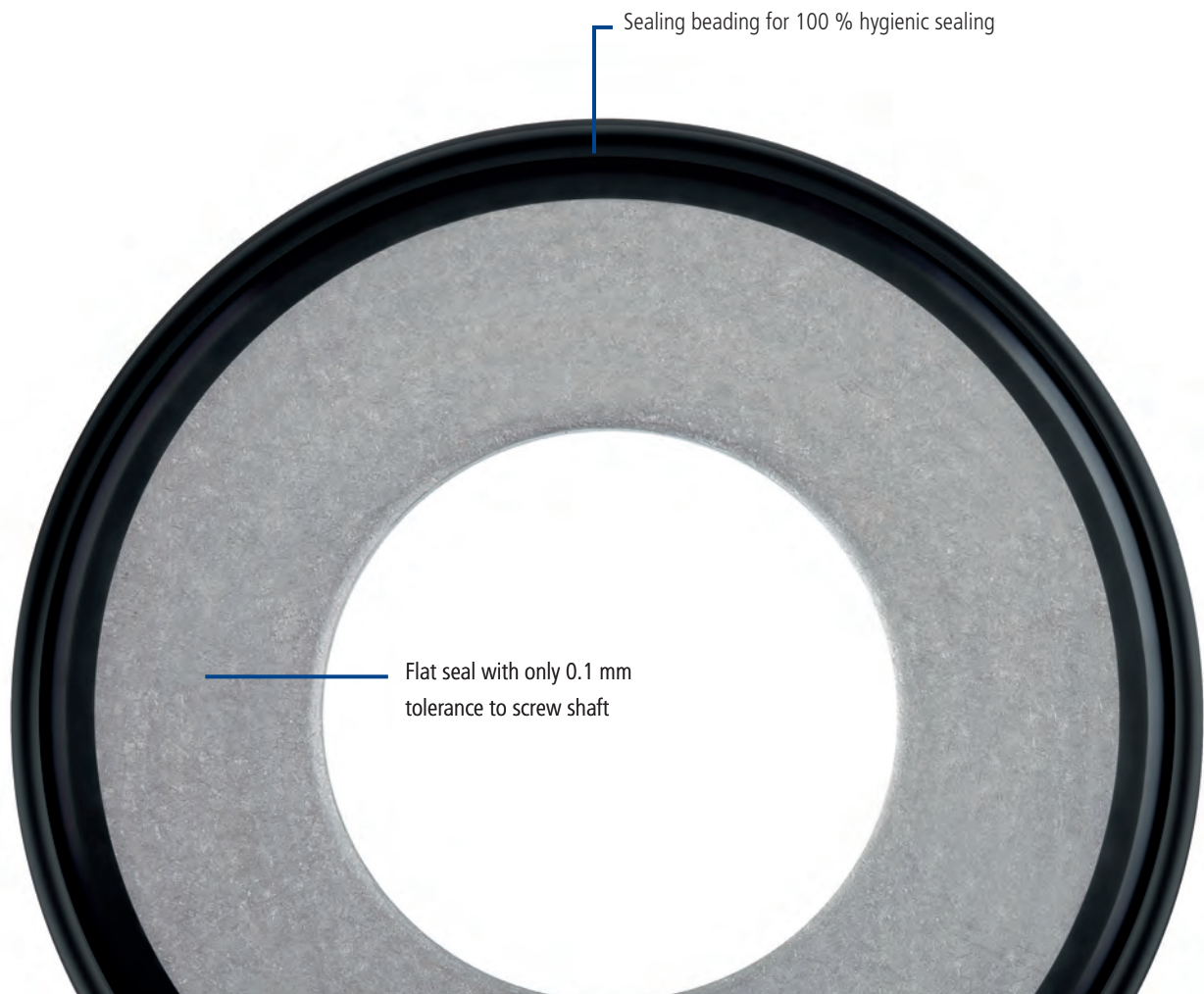
### The solution:

Hygienic USIT® from Freudenberg Sealing Technologies solves the problem.

The new type of washer with the specially matched screw system from NOVOnox hygienic is best suited for mounting in sterile areas and also complies with the EHEDG guidelines, which is confirmed by the corresponding certificate. Dirty liquids bead off. Nothing can adhere. Nothing can germinate. Hygienic USIT® is the new revolutionary sealing and fastening technology in one package. Screw heads, nuts, washers and screw shafts are perfectly matched to each other and form a system unit. High-gloss polished surfaces, radii, bevels and form transitions are cavity-free and enable easy cleaning.

### Sealed over and over again.

The sealing ring made of a metallic flat seal and a vulcanised sealing bead is the heart of Hygienic USIT®. The trapezoidal contour of the sealing bead and the highly polished face of the screw head positively seal the fastening point. The sealing properties remain constant even by repeated loosening and tightening of the screw. The reason: The metallic washer mechanically limits the screw travel when the screw is turned. Excessive pressure on the seal is prevented. The polished surface and the centring effect of the screw shaft ensure that the position and deformation of the seal is almost 100 % reproducible.





### Hygienic USIT® – High-gloss polished surface

The Hygienic USIT® fasteners have a completely rounded body form and have been designed for use with the USIT® sealing ring. The runoff of liquids and product residues is guaranteed independent of the installed position. The surfaces are repeatedly finely polished. When USIT® seal rings are used, the fastening point is hermetically sealed without any cavities. The fastening point is hygienically safe.

**Result:**

With the washer from Freudenberg Sealing Technologies and the special screw system from NOVONox hygienic, a sealing and fastening component that is 100 % hygienic and cavity-free has been created for the first time.



### Hygienic Tools – smooth stays smooth

**Protective inserts protect sensitive surfaces.**

Protective inserts have been developed so that the sensitive surfaces of the screws and nuts of the Hygienic USIT® screw and sealing system remain completely undamaged. These high-strength plastic or aluminium protective inserts prevent scratches on the screws and nuts. Moreover,

they also protect from possible contact corrosion between the tool and the stainless steel fastener. The protective inserts are inserted into tools which have been specially modified to accept them. The inserts clip in place so that they cannot be easily pulled out or lost. The inserts are available for screws sized M4, M5, M6, M8, M10, M12 and M16.



## Seals



## Nuts



## Screws



## Clamping levers



## Grips



## Knobs



## Indexing plunger



## Quarter-turn locks



## Tools

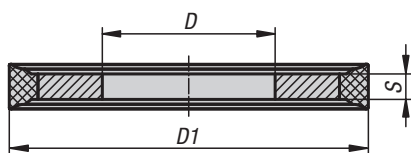


## Levelling feet





# Hygienic USIT® seal and shim washers



With its highly reliable sealing and design that is compliant with hygiene requirements, the Hygienic USIT® seal and shim washer is setting new standards for cleanliness in the process industry. Many manufacturers of machinery and systems for the food and pharmaceutical industries often use standard shim washers or O-rings for screw connections in or on the product chamber. These are not EHEDG-compliant, however, as contamination and biofilms in the form of bacteria colonies and corrosion can form under the screw head, preventing the design from achieving maximum hygiene standards.

The metallic shim washer with a fixed sealing ring made from 70 EPDM 295 (black) or 70 EPDM 253815 (white) provides a secure, cavity-free seal. The Hygienic USIT® seal and shim washer, made from the fluorinated premium compound Fluoroprene® XP 45, is suitable for applications involving particularly aggressive CIP/SIP cleaning temperatures, high steam sterilisation temperatures and process media containing grease. This material has an even larger operating temperature range and is resistant to polar and non-polar media as well as flavouring substances.

Approvals such as FDA, EU1935/2004 and USP Class VI (121°C), plus EHEDG certification, confirm that the Hygienic USIT® washer represents the ideal choice for hygienically demanding applications in the food, beverage and pharmaceutical industries.

#### Material:

Washer:

Stainless steel 1.4404.

Sealing ring:

70 EPDM 295 (black)

70 EPDM 253815 (white)

75 Fluoroprene® XP 45 (blue)

#### Sample order:

K1491.051

#### Note:

The EHEDG certificate is only valid when a specifically matched hexagon head bolt K1492 or cap nut K1493 is used.

#### Attention:

The function of the Hygienic USIT® screw connection system has been tested in combination with stainless steel materials and standard cleaning materials. The user must check that it is suitable for the application in question.

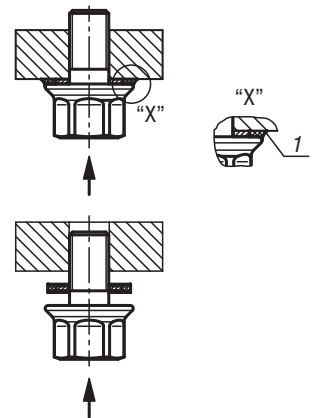
#### Accessories:

The Hygienic USIT® seal and shim washers can be used with all other products of the Hygienic USIT® range.

#### Drawing reference:

1) Cavity free sealing



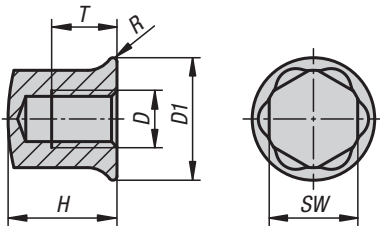


### KIPP Hygienic USIT® seal and shim washers

Order No. 70 EPDM 295 black	Order No. 70 EPDM 253815 white	Order No. fluoroprene XP 45 blue	D	D1	S	Suitable for hexagon screws	Suitable cap nuts
K1491.041	K1491.042	K1491.044	4,1	9,7	1	M4	M4
K1491.051	K1491.052	K1491.054	5,1	10,7	1	M5	M5
K1491.061	K1491.062	K1491.064	6,1	13,1	1	M6	M6
K1491.081	K1491.082	K1491.084	8,1	16,9	1	M8	M8
K1491.101	K1491.102	K1491.104	10,1	21,2	1,5	M10	M10
K1491.121	K1491.122	K1491.124	12,1	25,5	1,5	M12	M12
K1491.161	K1491.162	K1491.164	16,1	33,9	1,5	M16	M16

## Stainless steel cap nuts with collar

for Hygienic USIT® seal and shim washers



A cavity-free seal can only be assured in combination with the Hygienic USIT® seal and shim washer. The polished cap nuts have a surface finish of  $Ra < 0.8 \mu\text{m}$ . Internal transition areas with a minimum radius of 3 mm are also provided, preventing dirt particles from adhering to the components and ensuring easy cleaning.

The cap nut with collar for Hygienic USIT® seal and shim washers is ideal for fastening in sterile areas and also conform to EHEDG regulations, something that is confirmed with the relevant certificate.

**Material:**

Stainless steel 1.4404.

**Version:**

Polished.

**Sample order:**

K1493.05

**Note:**

The EHEDG certificate is only valid when a specifically matched Hygienic USIT® seal and shim washer K1491 is used.

**On request:**

Special versions.

**Accessories:**

Hygienic USIT® seal and shim washer K1491.

Hexagon head bolts with collar K1492.

Sockets with plastic inserts K1361.

Ring/open-end spanner with protective caps K1362.

### KIPP Stainless steel cap nuts with collar for Hygienic USIT® seal and shim washers

Order No.	D	D1	H	R	SW	T
K1493.04	M4	10,8	9	0,45	7	4,8
K1493.05	M5	11,8	11	0,5	8	6
K1493.06	M6	14	13	0,55	10	7,2
K1493.08	M8	18	16	0,6	13	9,6
K1493.10	M10	22	20	0,75	16	12
K1493.12	M12	26,6	23	0,9	18	14,4
K1493.16	M16	35	30	1,2	24	19,2

## Stainless steel cap nuts with collar

and seal and shim washer for Hygienic USIT® set



**Set:** cap nut with collar K1493 + Hygienic USIT® seal and shim washer K1491.

**Only the combination of a cap nut with collar and the Hygienic USIT® seal and shim washer assures a cavity-free seal.**

**The cap nut with collar for Hygienic USIT® seal and shim washers is ideal for fastening in sterile areas and also conform to EHEDG regulations, which is confirmed with the relevant certificate.**

**Material:**

- Cap nut: stainless steel 1.4404.
- Washer: stainless steel 1.4404.
- Seal ring:
  - 70 EPDM 295 (black).
  - 70 EPDM 253815 (white).
  - 75 Fluoroprene® XP 45 (blue).

**Version:**

Cap nut: polished.

**Sample order:**

K1594.041

**Note:**

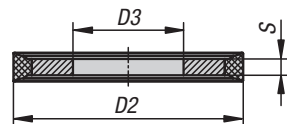
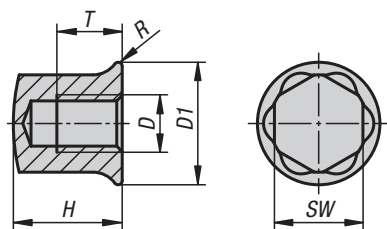
The EHEDG certificate is only valid when a combination of cap nut with collar K1493 and specially matched Hygienic USIT® seal and shim washer K1491 is used.

**Attention:**

The function of the Hygienic USIT® screw connection system has been tested in combination with stainless steel materials and standard cleaning materials. The user must check that it is suitable for the application in question.

**Accessories:**

- Hexagon head screw with collar K1492.
- Sockets with plastic inserts K1361.
- Ring/open-end spanner with protective caps K1362.

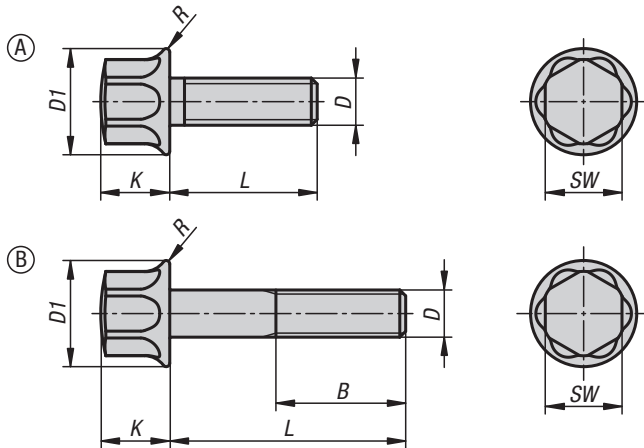


### KIPP Stainless steel cap nuts with collar and seal and shim washer for Hygienic USIT® set

Order No. 70 EPDM 295 black	Order No. 70 EPDM 253815 white	Order No. fluoroprene XP 45 blue	D	D1	D2	D3	H	R	S	SW	T	Approval / Certification
K1594.041	K1594.042	K1594.044	M4	10,8	9,7	4,1	9	0,45	1	7	4,8	EHEDG
K1594.051	K1594.052	K1594.054	M5	11,8	10,7	5,1	11	0,5	1	8	6	EHEDG
K1594.061	K1594.062	K1594.064	M6	14	13,1	6,1	13	0,55	1	10	7,2	EHEDG
K1594.081	K1594.082	K1594.084	M8	18	16,9	8,1	16	0,6	1	13	9,6	EHEDG
K1594.101	K1594.102	K1594.104	M10	22	21,2	10,1	20	0,75	1,5	16	12	EHEDG
K1594.121	K1594.122	K1594.124	M12	26,6	25,5	12,1	23	0,9	1,5	18	14,4	EHEDG
K1594.161	K1594.162	K1594.164	M16	35	33,9	16,1	30	1,2	1,5	24	19,2	EHEDG

# Stainless steel hexagon head screws with collar

for Hygienic USIT® seal and shim washers



A cavity-free seal can only be assured in combination with the Hygienic USIT® seal and shim washer. The polished screws have a surface finish of  $Ra < 0.8 \mu\text{m}$ . Internal transition areas with a minimum radius of 3 mm are also provided, preventing dirt particles from adhering to the components and ensuring easy cleaning.

Hexagon head bolts with collar for Hygienic USIT® seal and shim washers are ideal for fastening in sterile areas and also conform to EHEDG regulations, something that is confirmed with the relevant certificate.

**Material:**  
Stainless steel 1.4404.

**Version:**  
Polished.

**Sample order:**  
K1492.05X12 (include length L)

**Note:**  
The EHEDG certificate is only valid when a specifically matched Hygienic USIT® seal and shim washer K1491 is used.

**On request:**  
Special versions.

**Accessories:**  
Hygienic USIT® seal and shim washer K1491.  
Hexagon cap nut with collar K1493.  
Sockets with plastic inserts K1361.  
Ring/open-end spanner with protective caps K1362.

# Stainless steel hexagon head screws with collar

for Hygienic USIT® seal and shim washers



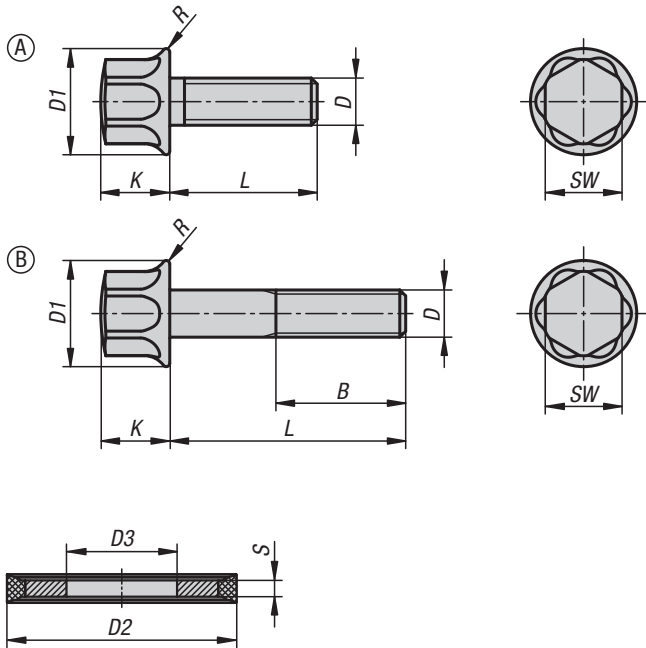
## KIPP Stainless steel hexagon head screws with collar for Hygienic USIT® seal and shim washers

Order No.	Form	D	D1	K	L	R	SW
K1492.04X	A	M4	10,8	6,9	8/10/12/16/20	0,45	7
K1492.05X	A	M5	11,8	8,5	10/12/16/20	0,5	8
K1492.06X	A	M6	14	9,2	12/16/20/25	0,55	10
K1492.08X	A	M8	18	11,7	16/20/25/30/35	0,6	13
K1492.10X	A	M10	22	14	20/25/30/35/40	0,75	16
K1492.12X	A	M12	26,6	17	25/30/35/40/45	0,9	18
K1492.16X	A	M16	35	21,8	30/35/40/45/50/60	1,2	24

Order No.	Form	D	D1	B	K	L	R	SW
K1492.04X	B	M4	10,8	14	6,9	25/30/35/40	0,45	7
K1492.05X	B	M5	11,8	16	8,5	25/30/35/40/45/50	0,5	8
K1492.06X	B	M6	14	18	9,2	30/35/40/45/50/60	0,55	10
K1492.08X	B	M8	18	22	11,7	40/45/50/60/70/80	0,6	13
K1492.10X	B	M10	22	26	14	45/50/60/70/80	0,75	16
K1492.12X	B	M12	26,6	30	17	50/60/70/80	0,9	18
K1492.16X	B	M16	35	38	21,8	70/80	1,2	24

# Stainless steel hexagon head screws with collar

and seal and shim washer for Hygienic USIT® set



**Set:** hexagon head screw with collar K1492 + Hygienic USIT® seal and shim washer K1491.

Only the combination of a hexagon head screw with collar and the Hygienic USIT® seal and shim washer assures a cavity-free seal.

The hexagon head screw with collar for Hygienic USIT® seal and shim washers is ideal for fastening in sterile areas and also conforms to EHEDG regulations, which is confirmed with the relevant certificate.

**Material:**

Hexagon head screw: stainless steel 1.4404.

Washer: stainless steel 1.4404.

Seal ring:

70 EPDM 295 (black).

70 EPDM 253815 (white).

75 Fluoroprene® XP 45 (blue).

**Version:**

Hexagon head screw: polished

**Sample order:**

K1595.041X20

**Note:**

The EHEDG certificate is only valid when a combination of hexagon head screw with collar K1492 and specially matched Hygienic USIT® seal and shim washer K1491 is used.

**Attention:**

The function of the Hygienic USIT® screw connection system has been tested in combination with stainless steel materials and standard cleaning materials. The user must check that it is suitable for the application in question.

**Accessories:**

Cap nut with collar K1493.

Sockets with plastic inserts K1361.

Ring/open-end spanner with protective caps K1362.

# Stainless steel hexagon head screws with collar

and seal and shim washer for Hygienic USIT® set



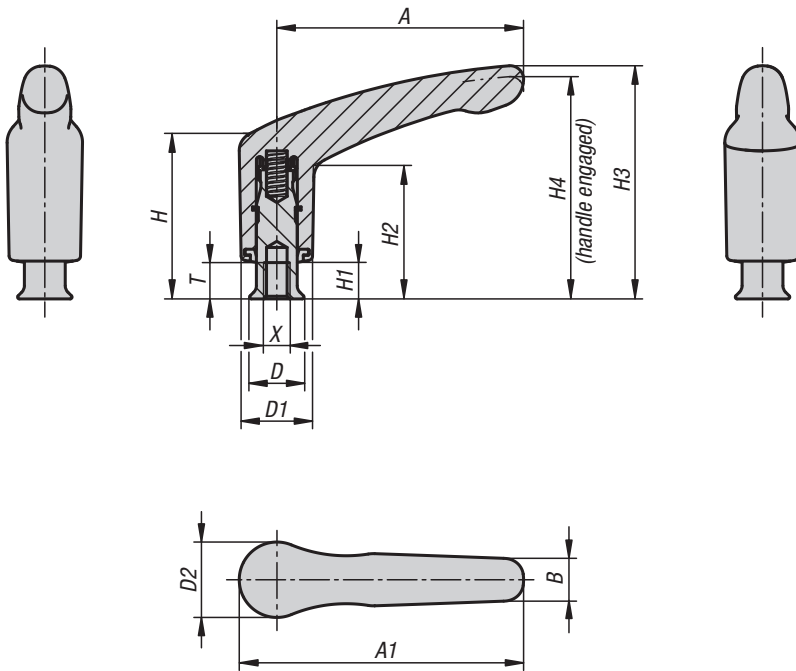
## KIPP Stainless steel hexagon head screws with collar and seal and shim washer for Hygienic USIT® set

Order No. 70 EPDM 295 black	Order No. 70 EPDM 253815 white	Order No. fluoroprene XP 45 blue	Form	D	L	D1	B	K	R	SW	D2	D3	S	Approval / Certification
K1595.041X	K1595.042X	K1595.044X	A	M4	8/10/12/16/20	10,8	-	6,9	0,45	7	9,7	4,1	1	EHEDG
K1595.041X	K1595.042X	K1595.044X	B	M4	25/30/35/40	10,8	14	6,9	0,45	7	9,7	4,1	1	EHEDG
K1595.051X	K1595.052X	K1595.054X	A	M5	10/12/16/20	11,8	-	8,5	0,5	8	10,7	5,1	1	EHEDG
K1595.051X	K1595.052X	K1595.054X	B	M5	25/30/35/40/45/50	11,8	16	8,5	0,5	8	10,7	5,1	1	EHEDG
K1595.061X	K1595.062X	K1595.064X	A	M6	12/16/20/25	14	-	9,2	0,55	10	13,1	6,1	1	EHEDG
K1595.061X	K1595.062X	K1595.064X	B	M6	30/35/40/45/50/60	14	18	9,2	0,55	10	13,1	6,1	1	EHEDG
K1595.081X	K1595.082X	K1595.084X	A	M8	16/20/25/30/35	18	-	11,7	0,6	13	16,9	8,1	1	EHEDG
K1595.081X	K1595.082X	K1595.084X	B	M8	40/45/50/60/70/80	18	22	11,7	0,6	13	16,9	8,1	1	EHEDG
K1595.101X	K1595.102X	K1595.104X	A	M10	20/25/30/35/40	22	-	14	0,75	16	21,2	10,1	1,5	EHEDG
K1595.101X	K1595.102X	K1595.104X	B	M10	45/50/60/70/80	22	26	14	0,75	16	21,2	10,1	1,5	EHEDG
K1595.121X	K1595.122X	K1595.124X	A	M12	25/30/35/40/45	26,6	-	17	0,9	18	25,5	12,1	1,5	EHEDG
K1595.121X	K1595.122X	K1595.124X	B	M12	50/60/70/80	26,6	30	17	0,9	18	25,5	12,1	1,5	EHEDG
K1595.161X	K1595.162X	K1595.164X	A	M16	30/35/40/45/50/60	35	-	21,8	1,2	24	33,9	16,1	1,5	EHEDG
K1595.161X	K1595.162X	K1595.164X	B	M16	70/80	35	38	21,8	1,2	24	33,9	16,1	1,5	EHEDG



## Clamping levers with internal thread and collar

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals



**Material:**

Metal parts stainless steel 1.4404.  
Shaft seal 70 EPDM 295.

**Version:**

High-gloss polished.

**Sample order:**

K1316.308

**Note:**

Clamping lever designed for the hygienic sector. The completely closed grip part and the shaft seal prevent contamination of the lever internal workings. Additionally, the screw insert has a conical collar so that the fastening point can be hygienically sealed with the Hygienic USIT® sealing and shim washer. Due to the extremely high surface finish quality of much less than Ra 0.8 µm, hardly any dirt particles adhere to the surface. The highly polished surfaces enable easy cleaning. At rest, the lever is freely rotatable. Unintended opening of the lever is excluded. The toothing is protected against high wear for mounting on vibrating elements.

**On request:**

Other thread depths and inch threads.

**Accessories:**

Hygienic USIT® sealing and shim washer K1491.

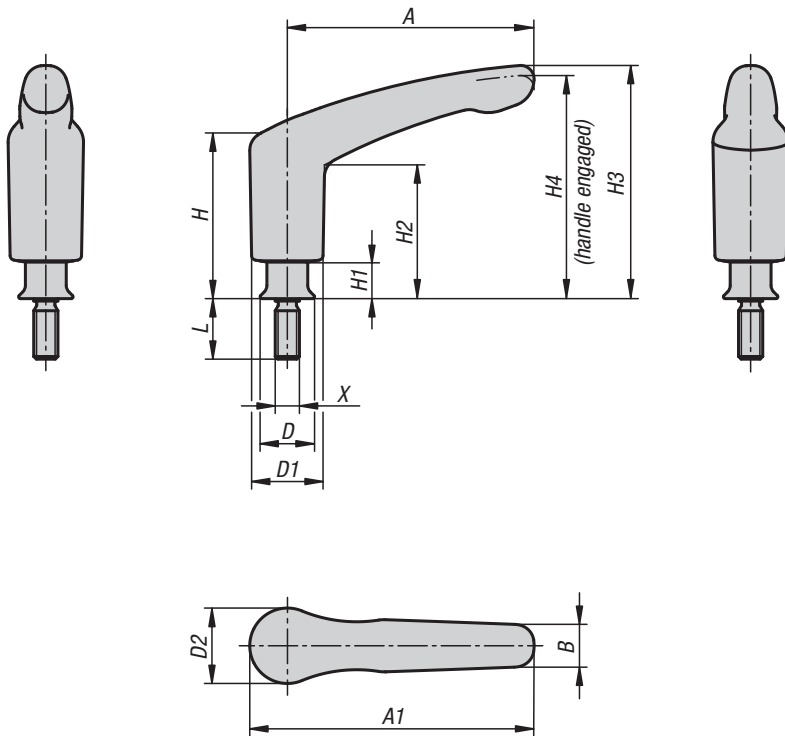


### KIPP Clamping levers with internal thread and collar for Hygienic USIT® sealing and shim washer Freudenberg Process Seals

Order No.	X	T	D	D1	D2	H	H1	H2	H3	H4	A	A1	B	No. of teeth
K1316.106	M6	10	14,2	21	21,7	36,7	8,8	27	50,6	47,6	47,4	58,2	11,8	16
K1316.206	M6	10	14,2	21	22,1	45,7	10,7	36,8	64,1	61,1	66,5	77,5	13	16
K1316.208	M8	14	18	21	22,1	45,7	10,7	36,8	64,1	61,1	66,5	77,5	13	16
K1316.308	M8	12	18	23,6	24,9	54,7	12,1	44	77	73,5	81,5	94	14,2	20
K1316.310	M10	15	22,3	23,6	24,9	54,7	12,1	44	77	73,5	81,5	94	14,2	20
K1316.312	M12	19	26,6	23,6	24,9	54,7	12,1	44	77	73,5	81,5	94	14,2	20

## Clamping levers with external thread and collar

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals



**Material:**

Metal parts stainless steel 1.4404.  
Shaft seal 70 EPDM 295.

**Version:**

High-gloss polished.

**Sample order:**

K1317.308X16

**Note:**

Clamping lever designed for the hygienic sector. The completely closed grip part and the shaft seal prevent contamination of the lever internal workings. Additionally, the screw insert has a conical collar so that the fastening point can be hygienically sealed with the Hygienic USIT® sealing and shim washer. Due to the extremely high surface finish quality of much less than Ra 0.8 µm, hardly any dirt particles adhere to the surface. The highly polished surfaces enable easy cleaning.

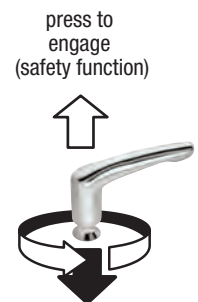
At rest, the lever is freely rotatable. Unintended opening of the lever is excluded. The toothing is protected against high wear for mounting on vibrating elements.

**On request:**

Other screw lengths and inch threads.

**Accessories:**

Hygienic USIT® sealing and shim washer K1491.

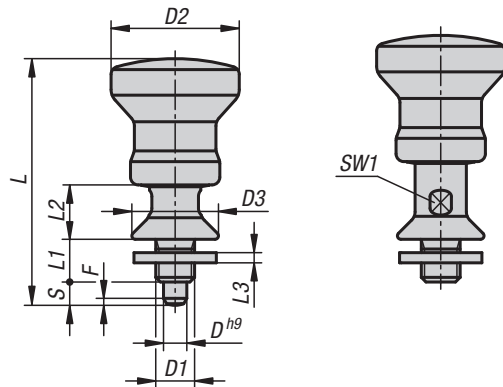


### KIPP Clamping levers with external thread and collar for Hygienic USIT® sealing and shim washer

Order No.	X	D	D1	D2	H	H1	H2	H3	H4	A	A1	B	No. of teeth	L
K1317.106X	M6	14,2	21	21,7	36,7	8,8	27	50,6	47,6	47,4	58,2	11,8	16	20/30/40/50
K1317.206X	M6	14,2	21	22,1	45,7	10,7	36,8	64,1	61,1	66,5	77,5	13	16	20/30/40/50
K1317.208X	M8	18	21	22,1	45,7	10,7	36,8	64,1	61,1	66,5	77,5	13	16	20/30/40/50/60
K1317.308X	M8	18	23,6	24,9	54,7	12,1	44	77	73,5	81,5	94	14,2	20	16/20/25/30/35/40/50/60
K1317.310X	M10	22,3	23,6	24,9	54,7	12,1	44	77	73,5	81,5	94	14,2	20	20/25/30/35/40/50/60
K1317.312X	M12	26,6	23,6	24,9	54,7	12,1	44	77	73,5	81,5	94	14,2	20	25/30/35/40/50/60

# Indexing plungers with collar

for Hygienic USIT® seal and shim washers



Indexing plungers are used where it is necessary to prevent changes of position due to lateral forces. A new locking position can be set only after the plunger has been manually retracted. Form C (with lockout slot) is recommended for applications where the indexing pin should remain disengaged for an extended period and be prevented from springing back.

This indexing plunger is suitable for the foodstuff sectors. It has a conical collar so that the fastening point can be hygienically sealed using the Hygienic USIT® sealing and shim washer. The surface finish is  $Ra < 0.8 \mu m$ , which prevents dirt particles from adhering and ensures easy cleaning.

**Material:**

Steel parts stainless steel 1.4404.

Seal 70 EPDM 295 (black) or 75 Fluoroprene® XP (blue).

**Version:**

Indexing pin hardened or not hardened, bright.

**Sample order:**

K1698.1120801

**Temperature range:**

70 EPDM 295: -40 °C to 150 °C.

75 Fluoroprene® XP: -15 °C to 200 °C.

**Advantages:**

Hygienic conform design

Stainless steel 1.4404

Suitable for CIP/SIP cleaning

Resistant to polar and nonpolar media as well as aromatic substances

**Supplied with:**

Indexing plunger including seal and shim washer

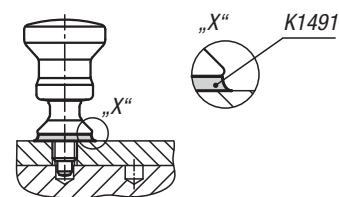
Hygienic USIT®.

**Accessories:**

Hygienic USIT® seal and shim washers K1491.

## Indexing plungers with collar

for Hygienic USIT® seal and shim washers



### KIPP Indexing plungers with collar, indexing pin hardened

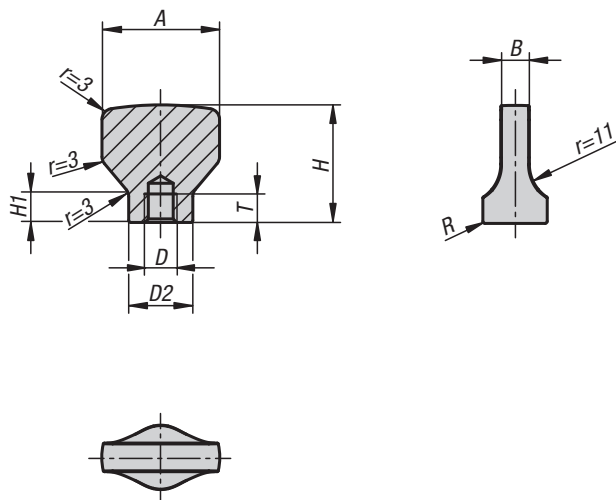
Order No. Form A without locking slot	Order No. Form C with locking slot	Component colour	D	D1	D2	D3	L	L1	L2	L3	Travel S	SW1	Fx30°	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K1698.0110601	K1698.0310601	black	6	M10	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.0110611	K1698.0310611	black	6	M10x1	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.0120801	K1698.0320801	black	8	M12	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62
K1698.0120811	K1698.0320811	black	8	M12x1,5	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62
K1698.0110602	K1698.0310602	blue	6	M10	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.0110612	K1698.0310612	blue	6	M10x1	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.0120802	K1698.0320802	blue	8	M12	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62
K1698.0120812	K1698.0320812	blue	8	M12x1,5	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62

### KIPP Indexing plungers with collar, indexing pin not hardened

Order No. Form A without locking slot	Order No. Form C with locking slot	Component colour	D	D1	D2	D3	L	L1	L2	L3	Travel S	SW1	Fx30°	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K1698.1110601	K1698.1310601	black	6	M10	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.1110611	K1698.1310611	black	6	M10x1	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.1120801	K1698.1320801	black	8	M12	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62
K1698.1120811	K1698.1320811	black	8	M12x1,5	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62
K1698.1110602	K1698.1310602	blue	6	M10	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.1110612	K1698.1310612	blue	6	M10x1	33	22,3	63,5	11	14	1,5	6	12	1,8	40	45
K1698.1120802	K1698.1320802	blue	8	M12	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62
K1698.1120812	K1698.1320812	blue	8	M12x1,5	33	26,6	69,5	13	16	1,5	8	12	2,3	40	62

## Wing nuts

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals



**Material:**

Steel parts stainless steel 1.4404.

**Version:**

High-gloss polished.

**Sample order:**

K1312.2004

**Note:**

The wing nut makes simple screw connections superbly feasible. They can be easily opened or re-tightened without tools.

The complete surface is polished to a high gloss with a surface finish of much less than Ra 0.8 µm. The contour is produced with generous radii and transitions. It doesn't matter in which position the wing grip 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 wing nut 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:**

Other thread depths and inch threads.

**Accessories:**

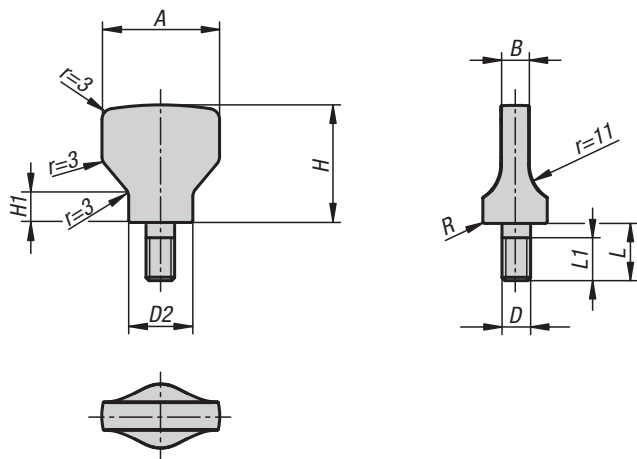
Hygienic USIT® sealing and shim washer K1491 for the screw-on surface.

### KIPP Wing nuts for Hygienic USIT® sealing and shim washer Freudenberg Process Seals

Order No.	A	B	D	D2	H	H1	R	T
K1312.2004	20	4	M4	10,8	19	5,3	0,45	6
K1312.2105	21	5	M5	11,8	21	6	0,5	6
K1312.2506	25	6	M6	14,2	25	7	0,55	7
K1312.3308	33	8	M8	18	33	8,4	0,7	9
K1312.4010	40	10	M10	22,3	40	10	0,8	11

# Wing screws

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals


**Material:**

Steel parts stainless steel 1.4404.

**Version:**

High-gloss polished.

**Sample order:**

K1313.2004X8

**Note:**

The wing screw makes simple screw connections superbly feasible. They can be easily opened or re-tightened without tools.

The complete surface is polished to a high gloss with a surface finish of much less than Ra 0.8 µm. The contour is produced with generous radii and transitions. It doesn't matter in which position the wing grip 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 wing screw 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:**

Other screw lengths and inch threads.

**Accessories:**

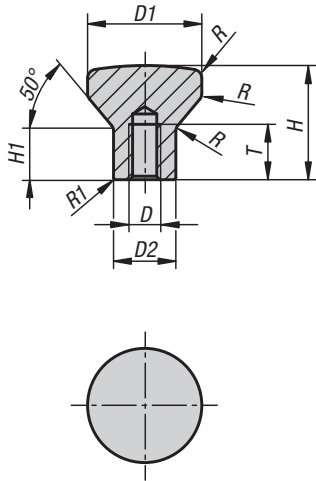
Hygienic USIT® sealing and shim washer K1491 for the screw-on surface.

## KIPP Wing screws for Hygienic USIT® sealing and shim washer Freudenberg Process Seals

Order No.	A	B	D	D2	H	H1	L	L1	R
K1313.2004X8	20	4	M4	10,8	19	5,3	8	7	0,45
K1313.2105X10	21	5	M5	11,8	21	6	10	9	0,5
K1313.2506X12	25	6	M6	14,2	25	7	12	11	0,55
K1313.3308X16	33	8	M8	18	33	8,4	16	15	0,7
K1313.4010X20	40	10	M10	22,3	40	10	20	19	0,8

## Mushroom knobs internal thread with high head

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals



**Material:**

Steel parts stainless steel 1.4404.

**Version:**

High-gloss polished.

**Sample order:**

K1308.2004

**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 µm. 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.

**Accessories:**

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

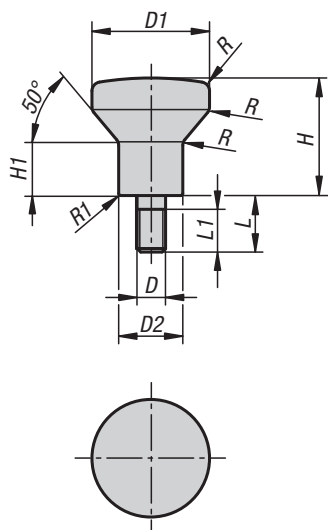
### KIPP Mushroom knobs, internal thread with high head, for Hygienic USIT® sealing and shim washer

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



# Mushroom knobs external thread with high head

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals



#### Material:

Steel parts stainless steel 1.4404.

#### Version:

High-gloss polished.

#### Sample order:

K1309.2004X8

#### 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 µm.

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 lengths, form variations.

#### Accessories:

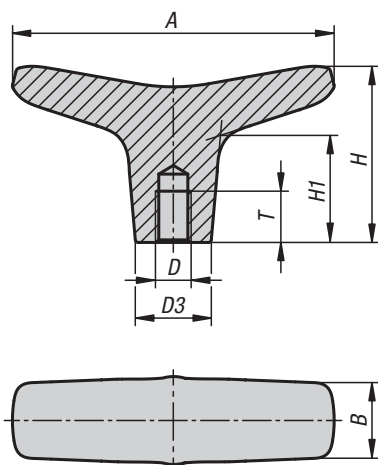
Hygienic USIT® sealing and shim washer K1491 for the screw-on surface.

## KIPP Mushroom knobs external thread, with high head, for Hygienic USIT® sealing and shim washer

Order No.	D	D1	D2	H	H1	L	L1	R	R1
K1309.2004X8	M4	20	10,8	19	8	8	7	3	0,45
K1309.2105X10	M5	21	11,8	21	10	10	9	3	0,5
K1309.2506X12	M6	25	14,2	25	12	12	11	3	0,55
K1309.3308X16	M8	33	18	33	15	16	15	4	0,7
K1309.4010X20	M10	40	22,3	40	19	20	19	4	0,8

## T-grips with internal thread in stainless steel

for Hygienic USIT® sealing and shim washer Freudenberg Process Seals



**Material:**

Stainless steel 1.4404.

**Version:**

High-gloss polished.

**Sample order:**

K1515.5505

**Note:**

The complete surface is polished to a high gloss with a surface finish of Ra 0.8 µm. This means that dirt and impurities can hardly adhere. Easy cleaning is ensured. The Hygienic USIT® sealing and shim washers from Freudenberg Process are used to seal the fastening point. The shaft of the T-grip is specially designed to suit this seal. A cavity-free seal of the fastening point is created, which satisfies hygienic regulations.

**On request:**

Other thread depths, inch threads, external threads.

**Accessories:**

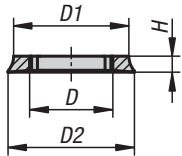
Hygienic USIT® sealing and shim washer K1491 for the screw-on surface.

### KIPP T-grips with internal thread in stainless steel for Hygienic USIT® sealing and shim washer Freudenberg Process Seals

Order No.	A	B	D	D3	H	H1	T
K1515.5505	55,2	12,3	M5	11,65	32,9	21	7,5
K1515.6506	65,3	14	M6	14	37	22,7	9
K1515.7508	75,3	17,7	M8	17,8	41,2	24,9	12

# Seal washers

in Hygienic DESIGN



The thermoplastic seal washer in Hygienic DESIGN was specially developed for use in combination with the hex head bolt K1647 or hex nut K1648. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of  $Ra \leq 0.8 \mu\text{m}$ .

The seal washers are made from an EU10/2011 and FDA conform plastic granulate.

**Material:**

EU10/2011 and FDA conform thermoplastic (POM).

**Version:**

RAL5002 - Ultramarine blue (POM).

**Sample order:**

K1649.108

**Note:**

Sealing ring is unsuitable for acidic cleaning ( $\text{pH} < 4$ ) and oxidising agents.

**Temperature range:**

$-20^\circ$  to  $+100^\circ$  C (POM).

**Advantages:**

Foodstuff conform material.  
Cleaning optimised geometry.

**On request:**

Special versions.

**Attention:**

The suitability of the Hygienic DESIGN fasteners for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

**Supplied with:**

Seal washer.

**Accessories:**

Stainless steel hex head bolt with seal washer K1647.  
Stainless steel hex nut with seal washer K1648.

**Threaded version:**

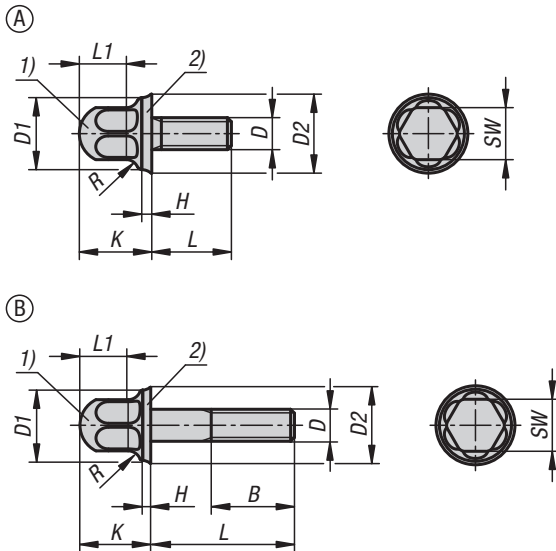
M4 - M16.

## KIPP Seal washers in Hygienic DESIGN

Order No.	D	D1	D2	H	G=thread / for thread
K1649.104	6	10	11,25	2	M4
K1649.105	8	12	13,25	2	M5
K1649.106	9	14	15,74	2,5	M6
K1649.108	13	18	19,74	2,5	M8
K1649.110	17	22	23,74	2,5	M10
K1649.112	20	26	28,25	3	M12
K1649.116	29	35	37,25	3	M16

# Hex head bolts, stainless steel with seal washer

in Hygienic DESIGN



The Hygienic DESIGN fastening system was specially developed for use in food-processing facilities. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of  $Ra \leq 0.8 \mu\text{m}$ . Quick and easy product installation due to a pre-mounted sealing washer rounds off the overall package.

**Material:**

Hex head bolt: stainless steel 1.4404.

Sealing washer: EU10/2011 and FDA conform thermoplastic (POM).

**Version:**

Hex head bolt: Polished or unpolished stainless steel.

Sealing washer: RAL5002 - ultra marine (POM).

**Sample order:**

K1647.1104X08

(include length L e.g. 08 for L = 8 mm.)

**Note:**

The contact face for the sealing ring must ideally be flat and perpendicular to the threaded hole and have a surface finish of  $Ra \leq 0.8 \mu\text{m}$ .

Sealing ring is unsuitable for acidic cleaning ( $\text{pH} < 4$ ) and oxidising agents.

**Temperature range:**

-20° to +100° C (POM).

**Advantages:**

Pre-installed, exchangeable seal washer.

Foodstuff conform material.

Cleaning optimised geometry.

**On request:**

Special versions.

**Attention:**

The suitability of the Hygienic DESIGN fasters for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

**Supplied with:**

Hex head bolt incl. seal washer.

**Accessories:**

Sealing washer K1649.

Stainless steel hex nut with sealing washer K1648.

Sockets with plastic inserts K1361.

Ring/open-end spanner with protective caps K1362.

**Threaded version:**

M4 - M16.

**Drawing reference:**

1) Hex head bolt

2) Sealing washer

## Hex head bolts, stainless steel with seal washer

in Hygienic DESIGN



## KIPP Hex head bolts, stainless steel with seal washer in Hygienic DESIGN

Order No. polished	Order No. not polished	Form	Form definition	B	D	D1	D2	H	K	L	L1	R	SW
K1647.1104X	K1647.2104X	A	without shaft	-	M4	10	11,25	2	11,1	8/10/12/16/20	5,9	3	7
K1647.1104X	K1647.2104X	B	with shaft	14	M4	10	11,25	2	11,1	25/30/35/40	5,9	3	7
K1647.1105X	K1647.2105X	A	without shaft	-	M5	12	13,25	2	13,1	10/12/16/20	7,4	3	8
K1647.1105X	K1647.2105X	B	with shaft	16	M5	12	13,25	2	13,1	25/30/35/40/45/50	7,4	3	8
K1647.1106X	K1647.2106X	A	without shaft	-	M6	14	15,74	2,5	15,1	12/16/20/25	9,1	3	10
K1647.1106X	K1647.2106X	B	with shaft	18	M6	14	15,74	2,5	15,1	30/35/40/45/50/60	9,1	3	10
K1647.1108X	K1647.2108X	A	without shaft	-	M8	18	19,74	2,5	18,1	16/20/25/30/35	11,7	3	13
K1647.1108X	K1647.2108X	B	with shaft	22	M8	18	19,74	2,5	18,1	40/45/50/60/70/80	11,7	3	13
K1647.1110X	K1647.2110X	A	without shaft	-	M10	22	23,74	2,5	22,1	20/25/30/35/40	15	4	16
K1647.1110X	K1647.2110X	B	with shaft	26	M10	22	23,74	2,5	22,1	45/50/60/70/80	15	4	16
K1647.1112X	K1647.2112X	A	without shaft	-	M12	26	28,25	3	25,1	25/30/35/40/45	16,1	5	18
K1647.1112X	K1647.2112X	B	with shaft	30	M12	26	28,25	3	25,1	50/60/70/80	16,1	5	18
K1647.1116X	K1647.2116X	A	without shaft	-	M16	35	37,25	3	32,1	30/35/40/45/50/60	21,8	6	24
K1647.1116X	K1647.2116X	B	with shaft	38	M16	35	37,25	3	32,1	70/80	21,8	6	24

## Hex nuts, stainless steel with seal washer

in Hygienic DESIGN



The Hygienic DESIGN fastening system was specially developed for use in food-processing facilities. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of  $Ra \leq 0.8 \mu\text{m}$ . Quick and easy product installation due to a pre-mounted sealing washer rounds off the overall package.

**Material:**

Hex nut: stainless steel 1.4404.  
Sealing washer: EU10/2011 and FDA conform thermoplastic (POM).

**Version:**

Hex nut: Polished or unpolished stainless steel.  
Sealing washer: RAL5002 - ultra marine (POM).

**Sample order:**

K1648.1108

**Note:**

The contact face for the sealing ring must ideally be flat and perpendicular to the threaded hole and have a surface finish of  $Ra \leq 0.8 \mu\text{m}$ . Sealing ring is unsuitable for acidic cleaning ( $\text{pH} < 4$ ) and oxidising agents.

**Temperature range:**

-20° to +100° C (POM).

**Advantages:**

Pre-installed, exchangeable seal washer.  
Foodstuff conform material.  
Cleaning optimised geometry.

**On request:**

Special versions.

**Attention:**

The suitability of the Hygienic DESIGN fasteners for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

**Supplied with:**

Hex nut incl. seal washer.

**Accessories:**

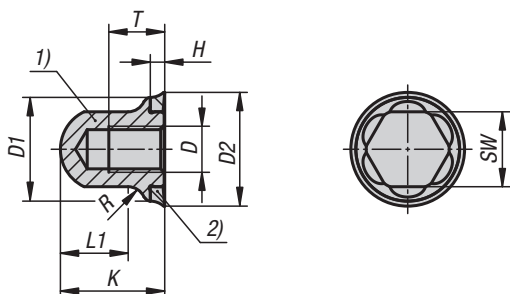
Sealing washer K1649.  
Stainless steel hex head bolt with sealing washer K1647.  
Sockets with plastic inserts K1361.  
Ring/open-end spanner with protective caps K1362.

**Threaded version:**

M4 - M16.

**Drawing reference:**

- 1) Hex nut
- 2) Sealing washer

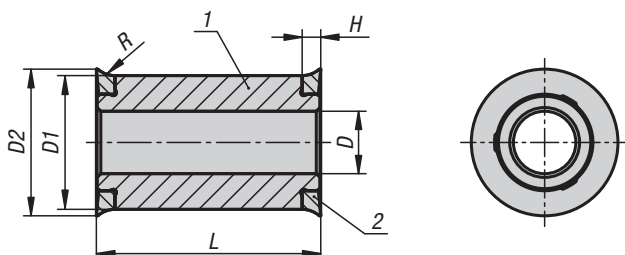


### KIPP Hex nuts, stainless steel with seal washer in Hygienic DESIGN

Order No. polished	Order No. not polished	D	D1	D2	H	K	L1	R	SW	T
K1648.1104	K1648.2104	M4	10	11,25	2	11,1	5,9	3	7	4,8
K1648.1105	K1648.2105	M5	12	13,25	2	13,1	7,4	3	8	6
K1648.1106	K1648.2106	M6	14	15,74	2,5	15,1	9,1	3	10	7,2
K1648.1108	K1648.2108	M8	18	19,74	2,5	18,1	11,7	3	13	9,6
K1648.1110	K1648.2110	M10	22	23,74	2,5	22,1	15	4	16	12
K1648.1112	K1648.2112	M12	26	28,25	3	25,1	16,1	5	18	14,4
K1648.1116	K1648.2116	M16	35	37,25	3	32,1	21,8	6	24	19,2

## Spacer sleeve, stainless steel with seal washer

in Hygienic DESIGN



The Hygienic DESIGN spacer sleeve was specially developed for use in food-processing facilities. Special emphasis has been placed on the cleaning-optimised geometry and a surface finish of  $Ra \leq 0.8 \mu\text{m}$ . The sealing washer made from foodstuff conform plastic is exchangeable.

**Material:**

Spacer sleeve: stainless steel 1.4404.  
Sealing washer: EU10/2011 and FDA conform thermoplastic (POM).

**Version:**

Spacer sleeve: unpolished stainless steel.  
Sealing washer: RAL5002 - Ultramarine blue (POM).

**Sample order:**

K1822.11106X50

**Note:**

The contact face for the sealing washer must ideally be flat and perpendicular to the threaded hole and have a surface finish of  $Ra \leq 0.8 \mu\text{m}$ .  
Sealing washer is unsuitable for acidic cleaning ( $\text{pH} < 4$ ) and oxidising agents.

The suitability of the Hygienic DESIGN spacer sleeves for the respective application must be checked by the user. Depending on the loads and external influences (temperature, cleaning media, product media), the sealing washer should be inspected regularly and replaced if necessary.

**Temperature range:**

-20° to +100° C (POM).

**Advantages:**

Exchangeable seal washer.  
Foodstuff conform material.  
Cleaning optimised geometry.

**Supplied with:**

Spacer sleeves incl. sealing washer.

**Accessories:**

Sealing washer K1649.  
Stainless steel hex head bolt with sealing washer K1647.  
Stainless steel hex nut with sealing washer K1648.

**Drawing reference:**

- 1) Spacer sleeve
- 2) Sealing washer

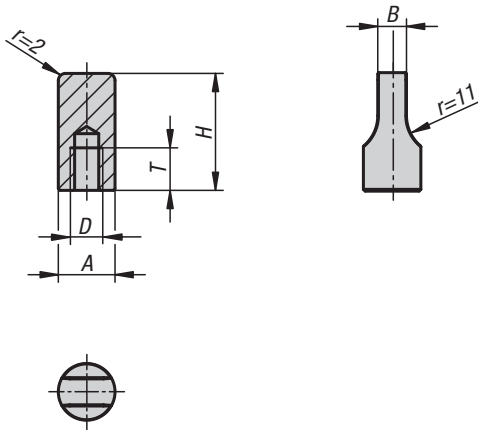
### KIPP Spacer sleeve, stainless steel with sealing washer in Hygienic DESIGN

Order No.	L	D	D1	D2	H	R
K1822.11106X30	30	6,4	14	15,74	2,5	3,5
K1822.11106X40	40	6,4	14	15,74	2,5	3,5
K1822.11106X50	50	6,4	14	15,74	2,5	3,5
K1822.11108X30	30	8,4	18	19,74	2,5	3,5
K1822.11108X40	40	8,4	18	19,74	2,5	3,5
K1822.11108X50	50	8,4	18	19,74	2,5	3,5
K1822.11110X30	30	10,5	22	23,74	2,5	3,5
K1822.11110X40	40	10,5	22	23,74	2,5	3,5
K1822.11110X50	50	10,5	22	23,74	2,5	3,5
K1822.11112X30	30	13	26	28,25	3	4
K1822.11112X40	40	13	26	28,25	3	4
K1822.11112X50	50	13	26	28,25	3	4



## Wing nuts narrow

in Hygienic DESIGN



**Material:**

Stainless steel 1.4404.

**Version:**

Polished.

**Sample order:**

K1314.04

**Note:**

The wing nut makes simple screw connections feasible. They can be easily opened or re-tightened without tools.

The complete surface is polished with a surface finish of less than Ra 0.8 µm. The contour is rounded with smooth transitions. Due to the polished surface dirt and residue from products or cleaners seldom adheres. Easy cleaning is ensured.

**On request:**

Inch threads, external threads.

### KIPP Wing nuts narrow in Hygienic DESIGN

Order No.	A	B	D	H	T
K1314.04	9	4,5	M4	20	6
K1314.05	10	4,5	M5	22	6
K1314.06	12	5,5	M6	22	7
K1314.08	16	8	M8	25	9
K1314.10	20	10	M10	30	11

## Ball head screw

in Hygienic DESIGN



**Material:**

Stainless steel 1.4404.

**Version:**

Polished.

**Sample order:**

K1329.06X20 (include length L)

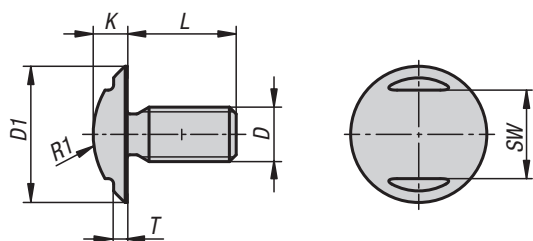
**Note:**

Ideal elements for fastening cladding panels, Plexiglas covers etc. The oversized flange and the thread undercut ensure a stress-free, uniform force distribution on the respective surfaces. Projecting edges are kept to a minimum by the head height being kept as low as possible. An open-end spanner is used to screw the fastener in.

The surface of the ball head screw is polished and, with regard to design optimised for the use in hygienic environments. The surface is polished to a surface finish of less than Ra 0.8 µm. Dirt and residue from products or cleaners seldom adheres and easy cleaning is ensured.

**Accessories:**

For damage-free tightening and loosening of the screw we recommend the open-end spanners together with the protective caps (K1362).



### KIPP Ball head screw in Hygienic DESIGN

Order No.	D	D1	K	T	SW	R1	L
K1329.03X	M3	8	2	0,6	5	5,2	4/5/6/8/10/12/16/20/25/30
K1329.04X	M4	11	3	1	6	6,7	5/6/8/10/12/16/20/25/30/35/40
K1329.05X	M5	14	4	1	8	8,6	6/8/10/12/16/20/25/30/35/40
K1329.06X	M6	17	5	1,5	10	10	8/10/12/16/20/25/30/35
K1329.08X	M8	20	5	1,5	13	13	10/12/16/20/25/30/35/40
K1329.10X	M10	22	6	1,5	15	13,5	12/16/20/25/30/35/37/40
K1329.12X	M12	27	7,5	1,5	19	16,3	16/20/25/30/35/40/50
K1329.16X	M16	36	9	1,5	24	23	20/25/30/35/40/50

# Hexagon bolts with narrow shaft

in Hygienic DESIGN



**Material:**

Stainless steel 1.4404.

**Version:**

Polished.

**Sample order:**

K1330.06X30 (include length L)

**Note:**

Narrow shaft bolts are preferably secured against unintentional loss with a retaining element. This satisfies the EU standard 2006/42/EG. With the optionally available retaining washer the bolt is permanently combined with the component before screwing in. The washer is screwed over the threaded section and can then move freely on the narrow shaft. The shaft is not damaged by e.g. notching caused by a spring effect. By manual operation it is not possible that the washer screws itself out again. However, by careful manipulation the washer can be removed from the bolt without damaging either.

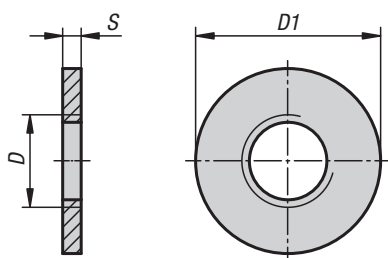
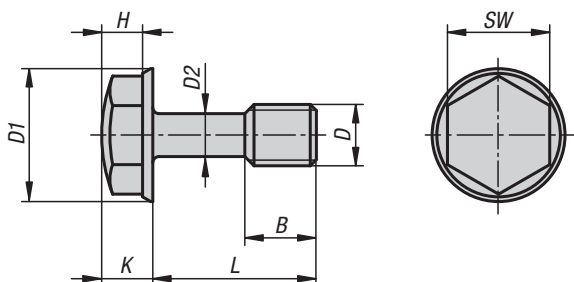
The surface of the hexagon head bolt is polished and, with regard to design optimised for the use in hygienic environments. The bolt head is convex on the top face and the collar has a conical formed top surface. Instead of troublesome embossing or indentations, the bolt head is smooth with a surface finish of less than  $Ra\ 0.8\ \mu m$ . Dirt and residue from products or cleaners seldom adheres and easy cleaning is ensured.

**On request:**

Inch threads, thread lengths, shaft lengths

**Accessories:**

Locking washer K1331.



## Hexagon bolts with narrow shaft

in Hygienic DESIGN



## KIPP Hexagon bolts with narrow shaft in Hygienic DESIGN

Order No.	Main material	D	D1	D2	B	H	K	L	SW
K1330.04X	stainless steel A4	M4	9,2	3,1	5	3	4	8/10/12/16	7
K1330.04X	stainless steel A4	M4	9,2	3,1	14	3	4	20/25/30/35/40	7
K1330.05X	stainless steel A4	M5	10,5	3,7	6	3,7	4,7	10/12/16/20	8
K1330.05X	stainless steel A4	M5	10,5	3,7	16	3,7	4,7	25/30/35/40/45/50	8
K1330.06X	stainless steel A4	M6	13	4,2	7	4	5	12/16/20	10
K1330.06X	stainless steel A4	M6	13	4,2	18	4	5	25/30/35/40/45/50/60	10
K1330.08X	stainless steel A4	M8	16,8	6	9,5	5,5	6,5	16/20/25	13
K1330.08X	stainless steel A4	M8	16,8	6	22	5,5	6,5	30/35/40/45/50/60/70/80	13
K1330.10X	stainless steel A4	M10	20,6	7,7	12	7,3	8,3	20/25/30/35	16
K1330.10X	stainless steel A4	M10	20,6	7,7	26	7,3	8,3	40/45/50/60/70/80	16
K1330.12X	stainless steel A4	M12	23,8	9,5	14,5	8,6	10	25/30/35/40	18
K1330.12X	stainless steel A4	M12	23,8	9,5	30	8,6	10	45/50/60/70/80	18
K1330.16X	stainless steel A4	M16	29,7	13	19	11,1	12,5	30/35/40/45/50	24
K1330.16X	stainless steel A4	M16	29,7	13	38	11,1	12,5	60/70/80	24

## KIPP Retaining washers for narrow shank screws

Order No.	Main material	D	D1	S
K1331.03	stainless steel A4	M3	6	1,5
K1331.04	stainless steel A4	M4	8	1,5
K1331.05	stainless steel A4	M5	10	1,5
K1331.06	stainless steel A4	M6	12	1,5
K1331.08	stainless steel A4	M8	16	2
K1331.10	stainless steel A4	M10	20	2
K1331.12	stainless steel A4	M12	24	2,5
K1331.16	stainless steel A4	M16	32	3

## Hexagon head screws, stainless steel

in Hygienic DESIGN

**Material:**

Stainless steel 1.4404

**Version:**

Polished.

**Sample order:**

K1411.03X06

(include length L e.g. 06 for L = 6 mm.)

**Note:**

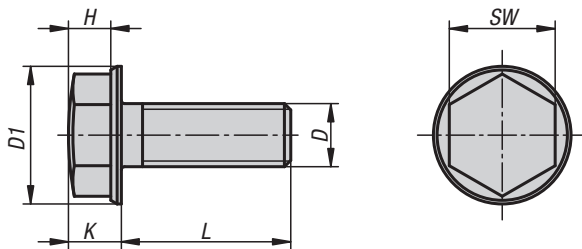
The surface of the hexagon head bolt is polished and, with regard to design optimised for the use in hygienic environments.

The bolt head is convex on the top face and the collar has a conical formed top surface.

Instead of troublesome embossing or indentations, the bolt head is smooth with a surface finish of Ra 0.8 µm. Dirt and residue from products or cleaners seldom adheres and easy cleaning is ensured.

**Accessories:**

For damage-free tightening and loosening of the screw we recommend the open-end spanners together with the protective caps (K1362).



## KIPP Hexagon head screws, stainless steel in Hygienic DESIGN

Order No.	Main material	D	D1	H	K	L	SW
K1411.03X	stainless steel A4	M3	7	3	3,8	6/8/10/12/16/20/25/30	5,5
K1411.04X	stainless steel A4	M4	9,2	3	4	6/8/10/12/16/20/25/30/35/40	7
K1411.05X	stainless steel A4	M5	10,5	3,7	4,7	8/10/12/16/20/25/30/35/60/40/45/50	8
K1411.06X	stainless steel A4	M6	13	4	5	8/10/12/16/20/25/30/35/40/45/50/55/60/65	10
K1411.08X	stainless steel A4	M8	16,8	5,5	6,5	12/14/16/20/25/30/35/40/45/50/55/60/65/70/75/80	13
K1411.10X	stainless steel A4	M10	20,6	7,3	8,3	16/20/25/30/35/40/45/50/55/60/65/70/75/80	16
K1411.12X	stainless steel A4	M12	23,8	8,6	10	25/30/35/40/45/50/60	18
K1411.16X	stainless steel A4	M16	29,7	11,1	12,5	30/35/40/45/50/60	24
K1411.20X	stainless steel A4	M20	36	15	16,3	40/45/50/60	30

## Cap nut compact

in Hygienic DESIGN



**Material:**  
Stainless steel 1.4404.

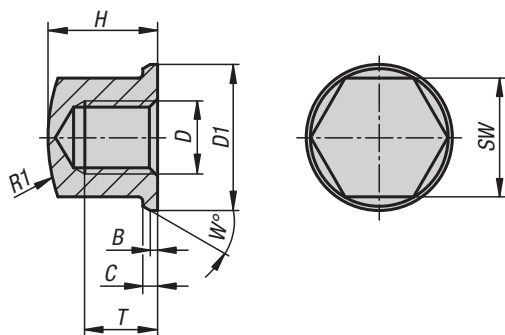
**Version:**  
Polished.

**Sample order:**  
K1332.08

**Note:**  
The surface of the cap nut is polished and, with regard to design optimised for the use in hygienic environments. The top of the nut is spherical and the collar has a conical formed top face. The nut has been designed as a low version so as to keep troublesome corners as few as possible. Due to the extremely high quality surface finish of much less than Ra 0.8 µm, hardly any dirt particles adhere to the surface.

**On request:**  
Inch threads, high versions.

**Accessories:**  
For damage-free tightening and loosening of the screw we recommend the open-end spanners together with the protective caps (K1362).



### KIPP Cap nut compact in Hygienic DESIGN

Order No.	Main material	D	D1	B	C	H	R1	SW	T	W
K1332.03	stainless steel A4	M3	6,8	0,25	0,5	4,95	8,8	5,5	3	20
K1332.04	stainless steel A4	M4	9	0,3	0,8	6,5	10	7	4	30
K1332.05	stainless steel A4	M5	10	0,5	1	7	16	8	4	30
K1332.06	stainless steel A4	M6	12	0,8	1	9	16	10	6	30
K1332.08	stainless steel A4	M8	16	0,8	1,6	12	20	13	8	30
K1332.10	stainless steel A4	M10	20	1	2	14	32	16	10	30
K1332.12	stainless steel A4	M12	24	1	2,5	16	35	19	11	30

## Quarter-turn lock in Hygienic DESIGN



**Material:**

Housing, actuation and fastening nut 1.4404 stainless steel.

O-rings red silicone, conforming to FDA.

Tongue 1.4301 stainless steel.

**Version:**

Bright.

**Sample order:**

Quarter turn lock K1353.18

Tongue K1340.45060

**Note:**

The quarter turn lock fulfills the hygienic requirements acc. to DIN EN 1672-2 and DIN EN 14159. Especially suitable for the food and beverage industry.

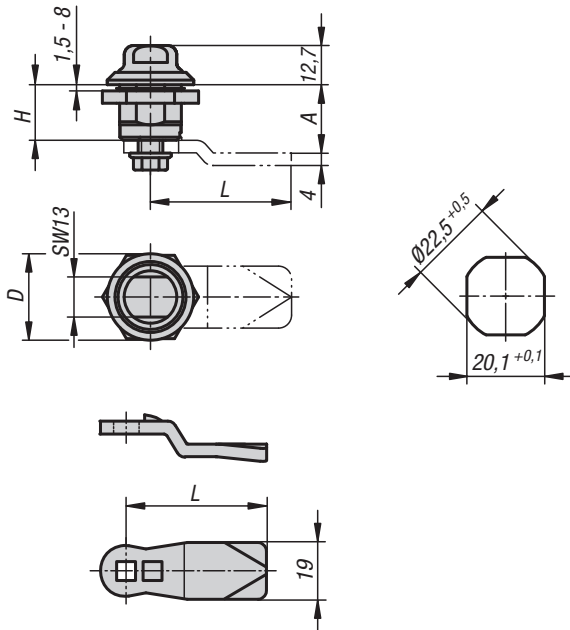
Please order required tongue version separately. Every tongue can be combined with every housing.

**Accessories:**

Lock key K1335.113

Ring spanner K1362.16

Protective insert K1362.1613



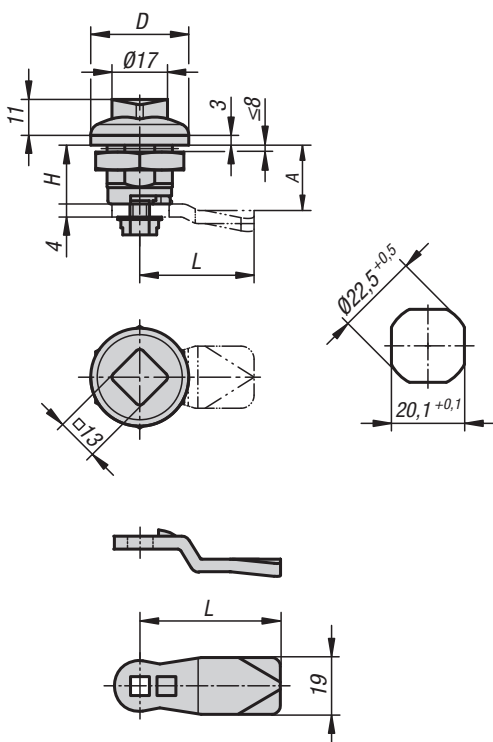
### KIPP Quarter-turn locks in Hygienic DESIGN

Order No.	Actuation	D	H
K1353.18	double flat	28	18

### KIPP Tongue for quarter-turn lock

Order No.	A	L
K1340.45060	6	45
K1340.45080	8	45
K1340.45100	10	45
K1340.45140	14	45
K1340.45160	16	45
K1340.45180	18	45
K1340.45200	20	45
K1340.45220	22	45
K1340.45240	24	45
K1340.45260	26	45
K1340.45280	28	45
K1340.45320	32	45
K1340.45500	50	45

## Quarter-turn lock in Hygienic DESIGN



### Material:

Housing and actuation: 1.4404.  
Earthing nut and ratchet screw: 1.4301.  
Seal: blue silicon, FDA conform.  
Tongue 1.4301.

### Version:

Bright.

### Sample order:

Quarter turn lock K1354.18  
Tongue K1340.45060

### Note:

The hygienic stainless steel quarter turn lock prevents bacterial attack and fulfils the strict regulations of testing principles for foodstuff machinery and hygien. The well conceived geometric form, the mirror polished stainless steel surface and the central circumferential seal reliably prevent dirt accumulation. Water, cleaning agents etc. can drain off fully and so prevent contamination.

Especially in processes where the resistance of the seal to cleaning and disinfection agents is very important, optimised control cabinets, terminal boxes and command panels are a must. Specifically designed after the principles of Hygienic DESIGN, the hygienic quarter turn lock HD fulfils the strict regulations of the foodstuff processing industry and passes therefore optimally in their professional hygienic applications. The special seal is suitable for high pressure washing up to max. 100 bar and fulfils IP65/67. Furthermore, the seal is temperature stable up to 80 °C and the blue colour satisfies FDA regulations (reliably prevents a confusion with foodstuffs).

Please order required tongue version separately. Every tongue can be combined with every housing.

### Accessories:

Lock key K1335.113  
Ring spanner K1362.16  
Protective insert K1362.1613

### KIPP Quarter-turn locks in Hygienic DESIGN

Order No.	Actuation	D	H
K1354.18	square	30	18

### KIPP Tongue for quarter-turn lock

Order No.	A	L
K1340.45060	6	45
K1340.45080	8	45
K1340.45100	10	45
K1340.45140	14	45
K1340.45160	16	45
K1340.45180	18	45
K1340.45200	20	45
K1340.45220	22	45
K1340.45240	24	45
K1340.45260	26	45
K1340.45280	28	45
K1340.45320	32	45
K1340.45500	50	45



## Quarter-turn lock in Hygienic DESIGN

with T-grip



**Material:**

Housing and actuation: 1.4404.  
Earthing nut and ratchet screw: 1.4301.  
Seal: blue silicon, FDA conform.

**Version:**

Bright.  
Grip polished.

**Sample order:**

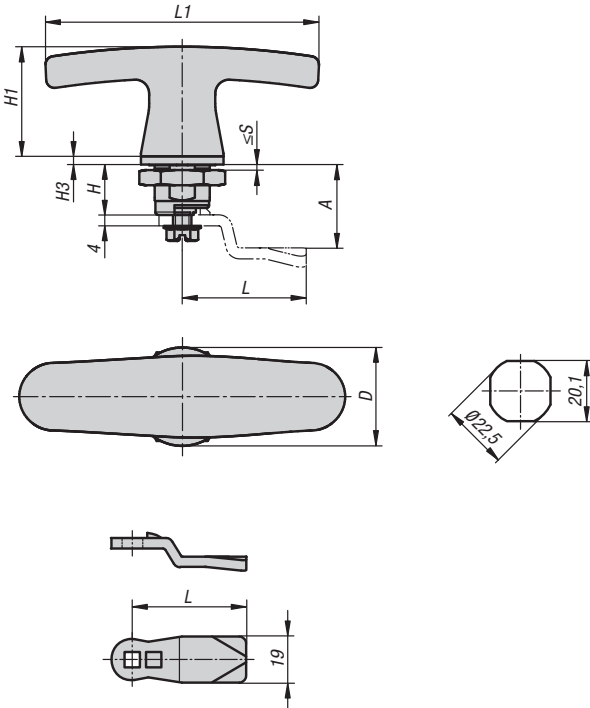
K1452.1188

**Note:**

The hygienic stainless steel quarter turn lock prevents bacterial attack and fulfils the strict regulations of testing principles for foodstuff machinery and hygien. The well conceived geometric form, the mirror polished stainless steel surface and the central circumferential seal reliably prevent dirt accumulation. Water, cleaning agents etc. can drain off fully and so prevent contamination.

Especially in processes where the resistance of the seal to cleaning and disinfection agents is very important, optimised control cabinets, terminal boxes and command panels are a must. Specifically designed after the principles of Hygienic DESIGN, the hygienic quarter turn lock HD fulfils the strict regulations of the foodstuff processing industry and passes therefore optimally in their professional hygienic applications. The special seal is suitable for high pressure washing up to max. 100 bar and fulfils IP65/67. Furthermore, the seal is temperature stable up to 80 °C and the blue colour satisfies FDA regulations (reliably prevents a confusion with foodstuffs).

Please order required tongue version separately. Every tongue can be combined with every housing.



### KIPP Quarter-turn locks in Hygienic DESIGN with T-grip

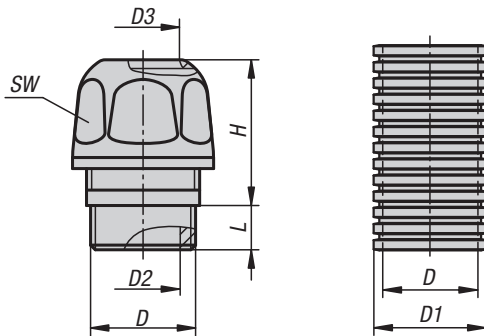
Order No.	D	H	H1	H3	L1	S max.
K1452.1188	30	18	40	3	100	8

### KIPP Tongue for quarter-turn locks

Order No.	A	L
K1340.45060	6	45
K1340.45080	8	45
K1340.45100	10	45
K1340.45140	14	45
K1340.45160	16	45
K1340.45180	18	45
K1340.45200	20	45
K1340.45220	22	45
K1340.45240	24	45
K1340.45260	26	45
K1340.45280	28	45
K1340.45320	32	45
K1340.45500	50	45

## Cable glands, stainless steel or plastic

in Hygienic DESIGN



**Material:**

Stainless steel cable gland: Outer part 1.4404, inner part 1.4305.  
 Plastic cable gland: Polyamide.  
 Cable gland seal: TPU.  
 Hose: Polyamide.

**Version:**

Cable gland: bright stainless steel, transparent plastic.  
 Hose: coated

**Sample order:**

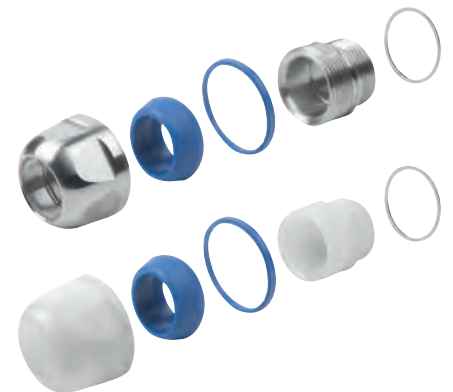
K1453.12150

**Note:**

Washers supplied.  
 EN 60423 metric thread.  
 IP rating 66, 68 up to 15 bar, 69K.  
 Tension relief corresponds to EU standard 62444.  
 EHEDG certified.  
 Seal insert ADI - free

**Temperature range:**

Stainless steel cable gland: -40 °C to +85 °C.  
 Plastic cable gland: -20 °C to +85 °C.  
 Hose: -20 °C to +95 °C.



### KIPP Cable glands, stainless steel or plastic, in Hygienic DESIGN

Order No. stainless steel	Order No. plastic	D	D2	D3	H	SW	L
K1453.12150	-	M12X1,5	8	7-5	19	17	7
K1453.16150	K1453.16151	M16x1,5	10	9-7	21/25	20/22	9
K1453.20150	K1453.20151	M20X1,5	12,5	12-9	27/29	24/26	9
K1453.25150	K1453.25151	M25x1,5	18,5	18-15	27/31	30/32	10
K1453.32150	K1453.32151	M32x1,5	25,3	23-20	27/32	36/38	11

### KIPP Corrugated tube hose

Order No.	D	D1	L	Nominal size
K1461.1250	11,8	16	50M	12
K1461.1750	15,6	21,6	50M	17

# Combination spanner with protective caps



**Material:**

Combination spanner tool steel.  
Protective cap AlSi1MgMn.

**Sample order:**

K1362.10 combination spanner  
K1362.1007 caps for open-end spanner  
K1362.11007 caps for ring spanner

**Note:**

The protective cap was specially developed for tightening and loosening screw connections with sensitive surfaces. With normal tools, the surface of polished screws are so damaged from the first tightening, that cavities are created making easy and effective cleaning no longer possible.

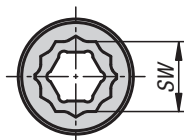
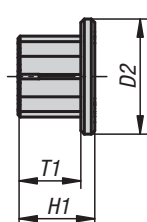
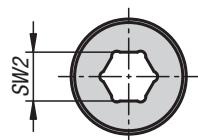
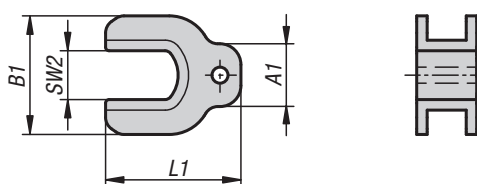
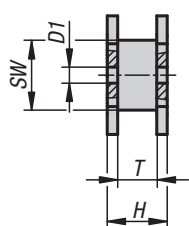
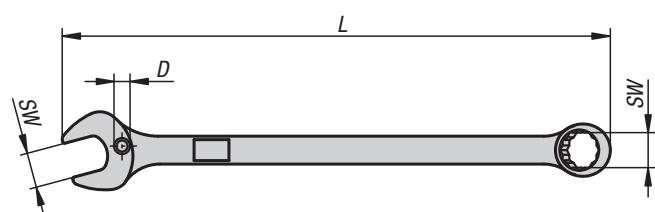
The protective caps ensure damage free tightening and loosening of fasteners with outer contours. The soft aluminium leaves no scratches or other damage on sensitive surfaces. By correct and professional use the protective caps have a service life of ca. 1000 operating cycles.

Additionally, with the protective caps the risk of contact corrosion is reliably prevented on stainless steel fasteners. The projecting contour largely prevents unintentional contact points between spanner and stainless steel screw.

The protective cap is held securely in the spanner by a special moulding or spring clip element. The cap cannot fall out on its own. Worn-out protective caps are changed manually.

**On request:**

Other sizes.



## KIPP Combination spanner

Order No.	SW	A	B	L	D
K1362.10	10	5	8	154,5	5
K1362.11	11	5,5	8,4	168,5	5
K1362.13	13	6,3	10	193	6
K1362.16	16	7	11,4	230,5	6
K1362.19	19	8	13,5	268,5	7
K1362.21	21	8,5	13,7	292	7
K1362.27	27	10,5	16	380	9

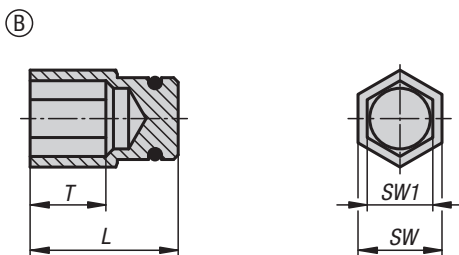
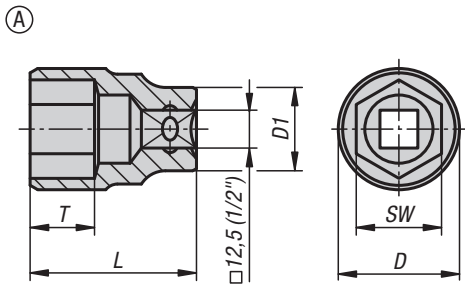
## KIPP Cap for open-end spanner

Order No.	SW	SW2	A1	B1	L1	D1	T	H
K1362.1005	10	5	9	17	19,4	2,3	5,6	8,6
K1362.10055	10	5,5	9	17	19,4	2,3	5,6	8,6
K1362.1006	10	6	9	17	19,4	2,3	5,6	8,6
K1362.1007	10	7	9	17	19,4	2,3	5,6	8,6
K1362.1108	11	8	9	18	20,7	2,3	5,7	8,7
K1362.1310	13	10	10	22	23,2	3	6,7	10,7
K1362.1613	16	13	13	27	28,6	3	7,7	11,7
K1362.1915	19	15	13	30	32,5	4	8,6	12,6
K1362.1916	19	16	13	30	32,5	4	8,6	12,6
K1362.2118	21	18	13	32	35	4	9	13
K1362.2119	21	19	13	32	35	4	9	13
K1362.2724	27	24	14	40	43,8	4	10,8	15

## KIPP Cap for ring spanner

Order No.	SW	SW2	D2	T1	H1
K1362.11005	10	5	16,5	9	11
K1362.110055	10	5,5	16,5	9	11
K1362.11006	10	6	16,5	9	11
K1362.11007	10	7	16,5	9	11
K1362.11108	11	8	18	9,4	11,4
K1362.11310	13	10	21	11	13
K1362.11613	16	13	25	12,4	14,4
K1362.11915	19	15	30	14,5	16,5
K1362.11916	19	16	30	14,5	16,5
K1362.12118	21	18	32	14,7	16,7
K1362.12119	21	19	32	14,7	16,7
K1362.12724	27	24	41	17	19

## Sockets and plastic inserts



**Material:**  
Socket tool steel.  
Insert special PETP.

**Version:**  
Socket chromium-plated.

**Sample order:**  
K1361.1112 (Socket SW11)  
K1361.0805 (Plastic insert SW8 for M5 hex head screw)

**Note:**  
Socket:  
Socket with 1/2" drive, made by Hazet. Specially modified, for holding the plastic inserts. The plastic inserts are securely held by the inner form and length of the socket. Optimal drive torque is transmitted to the screw head. By careful use, metallic contact between the socket and the hex head is prevented. Contact corrosion is eliminated.

Plastic insert:  
Plastic inserts for tightening and loosening the screws and nuts of the KIPP product range NOVOnox hygienic. Polished and sensitive surfaces are protected and a later contact corrosion is avoided. The plastic inserts are made from a specially manufactured PETP and have FDA approval. The inserts are pressed into the special socket manually. The form fit and locking device ensures an optimal hold in the socket. No special tools are required to exchange the worn out inserts.  
By a tightening torque of  $\mu$  0.12 coefficient of friction (DIN for A4-70 for screws and nuts), the plastic inserts have a life expectancy of up to 1000 alternating cycles.

**Drawing reference:**  
A) Socket  
B) Plastic insert

### KIPP Sockets

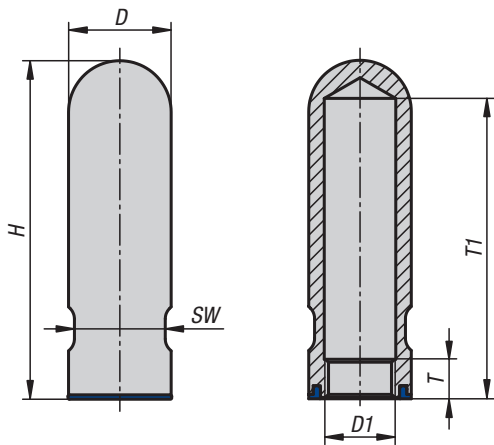
Order No.	D	D1	L	T	SW
K1361.1012	15,3	22	36,6	10,6	10
K1361.1112	16,6	22	37,3	10,1	11
K1361.1312	19,1	22	37,3	10,6	13
K1361.1612	22,9	23,6	37,1	11,3	16
K1361.1912	26,6	23	37	13,2	19
K1361.2112	29	25	36,8	12,9	21
K1361.2712	35,2	25	44,4	18,1	27

### KIPP Plastic inserts

Order No.	L	T	SW	SW1
K1361.0704	18	6	10	7
K1361.0805	18	6	11	8
K1361.1006	19,5	10	13	10
K1361.1308	21,5	11	16	13
K1361.1610	22	13,5	19	16
K1361.1812	21,5	12	21	18
K1361.2416	26,5	18	27	24

## Thread cover, stainless steel

in Hygienic DESIGN



**Material:**

Sleeve stainless steel 1.4301.  
Rubber seal silicon, FDA certified.

**Version:**

Sleeve high-gloss polished.  
Rubber seal, blue.

**Sample order:**

K1821.1116112

**Note:**

Certified according to 3-A Sanitary Standard.  
The thread cover caps protruding external threads and thus protects them from dirt.  
The high surface finish quality prevents dirt from adhering and reduces cleaning times to a minimum.

**Application:**

The thread cover is particularly suitable for machines, plants and appliances in the foodstuff, brewery, dairy, beverage and pharmaceutical industries.

**Accessories:**

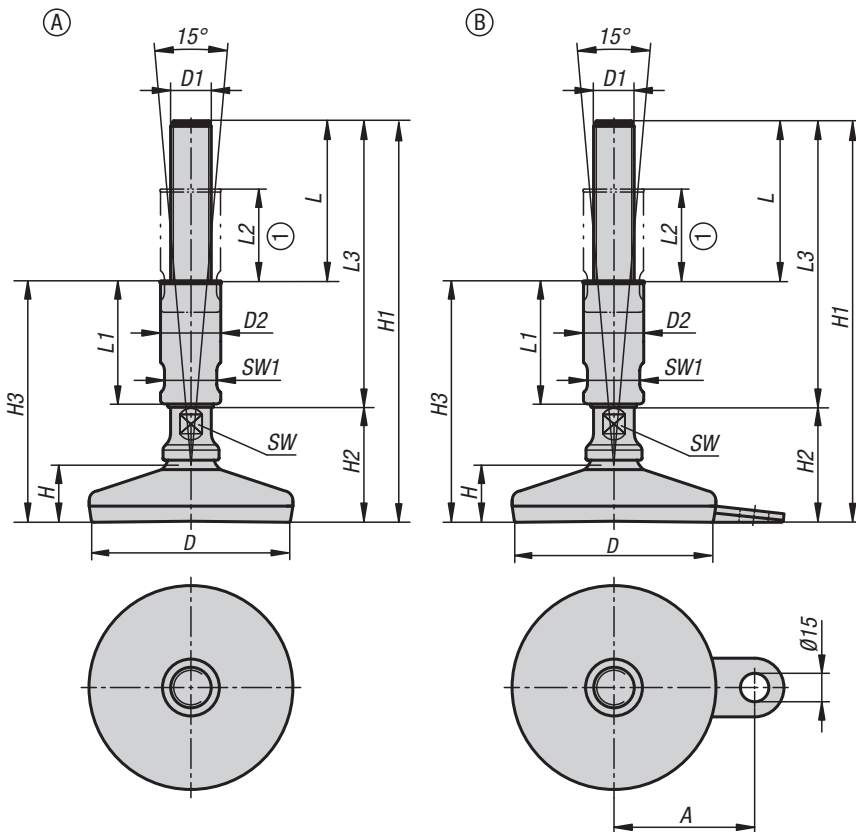
Levelling feet K1303.



### KIPP Thread cover, stainless steel, in Hygienic DESIGN

Order No.	D	D1	H	T	T1	SW
K1821.1112112	24	M12	112	12	102	20
K1821.1116112	24	M16	112	12	102	20
K1821.1120115	30	M20	115	12	102	26
K1821.1124115	35	M24	115	12	102	30

## Levelling feet in Hygienic DESIGN



**Material:**

Foot plate and threaded spindle stainless steel 1.4301.  
 Rubber base (NBR) Shore 85 +/-5, FDA tested.  
 Rubber seal, silicone, FDA tested.

**Version:**

Foot plate, high-gloss polished.  
 Threaded spindle, bright.  
 Rubber base, black.  
 Rubber seal, blue.

**Sample order:**

K1303.108016X140  
 (include length L3)

**Note:**

Certified according to 3-A Sanitary Standard.

The high surface quality, the double sealing of the thread and the special seal on the machine foot's spindle joint prevent dirt from sticking and reduce cleaning times to a minimum.

The machine foot is supplied with the 3-A logo.

**Application:**

The machine foot is particularly suitable for machines, plants and appliances in the foodstuff industry, breweries, dairies, beverage and pharmaceutical industries.

**Accessories:**

Hygienic USIT® seal and shim washer K1491.  
 Hex cap nut with collar K1493.  
 Thread cover K1821.

**Drawing reference:**

1) Adjustment range

## KIPP Form A

Order No.	Form	D	D1	D2	H	H1	H2	H3	L	L1	L2	L3	SW	SW1	Load rating max. kN (static load only)
K1303.106012X	A	60	M12	24	23	191/241	51	112/137	79/104	60/85	45/70	140/190	13	20	10
K1303.106016X	A	60	M16	24	23	191/241	51	112/137	79/104	60/85	45/70	140/190	13	20	10
K1303.108016X	A	80	M16	24	25	193/243	53	114/139	79/104	60/85	45/70	140/190	13	20	20
K1303.108020X	A	80	M20	30	25	193/243	53	114/139	79/104	60/85	45/70	140/190	17	26	20
K1303.108024X	A	80	M24	35	25	193/243	53	114/139	79/104	60/85	45/70	140/190	20	30	20
K1303.110016X	A	100	M16	24	28	196/246	56	117/142	79/104	60/85	45/70	140/190	13	20	25
K1303.110020X	A	100	M20	30	28	196/246	56	117/142	79/104	60/85	45/70	140/190	17	26	25
K1303.110024X	A	100	M24	35	28	196/246	56	117/142	79/104	60/85	45/70	140/190	20	30	25
K1303.112016X	A	120	M16	24	32	200/250	60	121/146	79/104	60/85	45/70	140/190	13	20	30
K1303.112020X	A	120	M20	30	32	200/250	60	121/146	79/104	60/85	45/70	140/190	17	26	30
K1303.112024X	A	120	M24	35	32	200/250	60	121/146	79/104	60/85	45/70	140/190	20	30	30

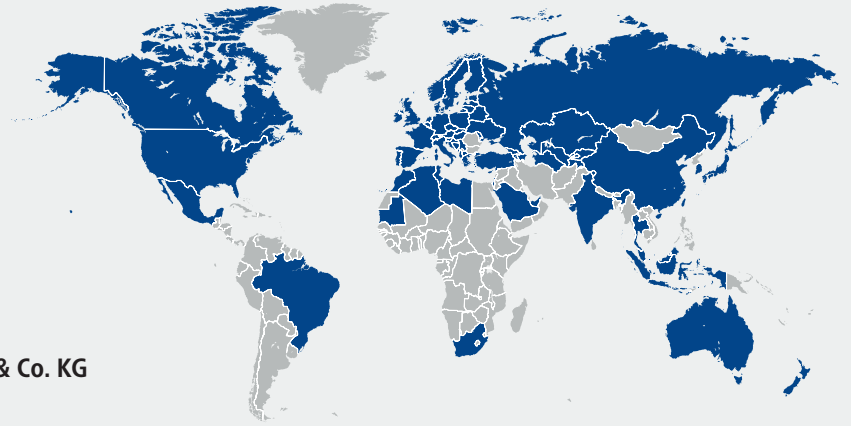
## KIPP Form B with fastening tab

Order No.	Form	A	D	D1	D2	H	H1	H2	H3	L	L1	L2	L3	SW	SW1	Load rating max. kN (static load only)
K1303.206012X	B	45	60	M12	24	23	191/241	51	112/137	79/104	60/85	45/70	140/190	13	20	10
K1303.206016X	B	45	60	M16	24	23	191/241	51	112/137	79/104	60/85	45/70	140/190	13	20	10
K1303.208016X	B	54	80	M16	24	25	193/243	53	114/139	79/104	60/85	45/70	140/190	13	20	20
K1303.208020X	B	54	80	M20	30	25	193/243	53	114/139	79/104	60/85	45/70	140/190	17	26	20
K1303.208024X	B	54	80	M24	35	25	193/243	53	114/139	79/104	60/85	45/70	140/190	20	30	20
K1303.210016X	B	69	100	M16	24	28	196/246	56	117/142	79/104	60/85	45/70	140/190	13	20	25
K1303.210020X	B	69	100	M20	30	28	196/246	56	117/142	79/104	60/85	45/70	140/190	17	26	25
K1303.210024X	B	69	100	M24	35	28	196/246	56	117/142	79/104	60/85	45/70	140/190	20	30	25



# LOCATIONS

HEINRICH KIPP WERK is present worldwide with 13 company branches and more than 50 agencies, and so guarantees a high level of delivery capability internationally.



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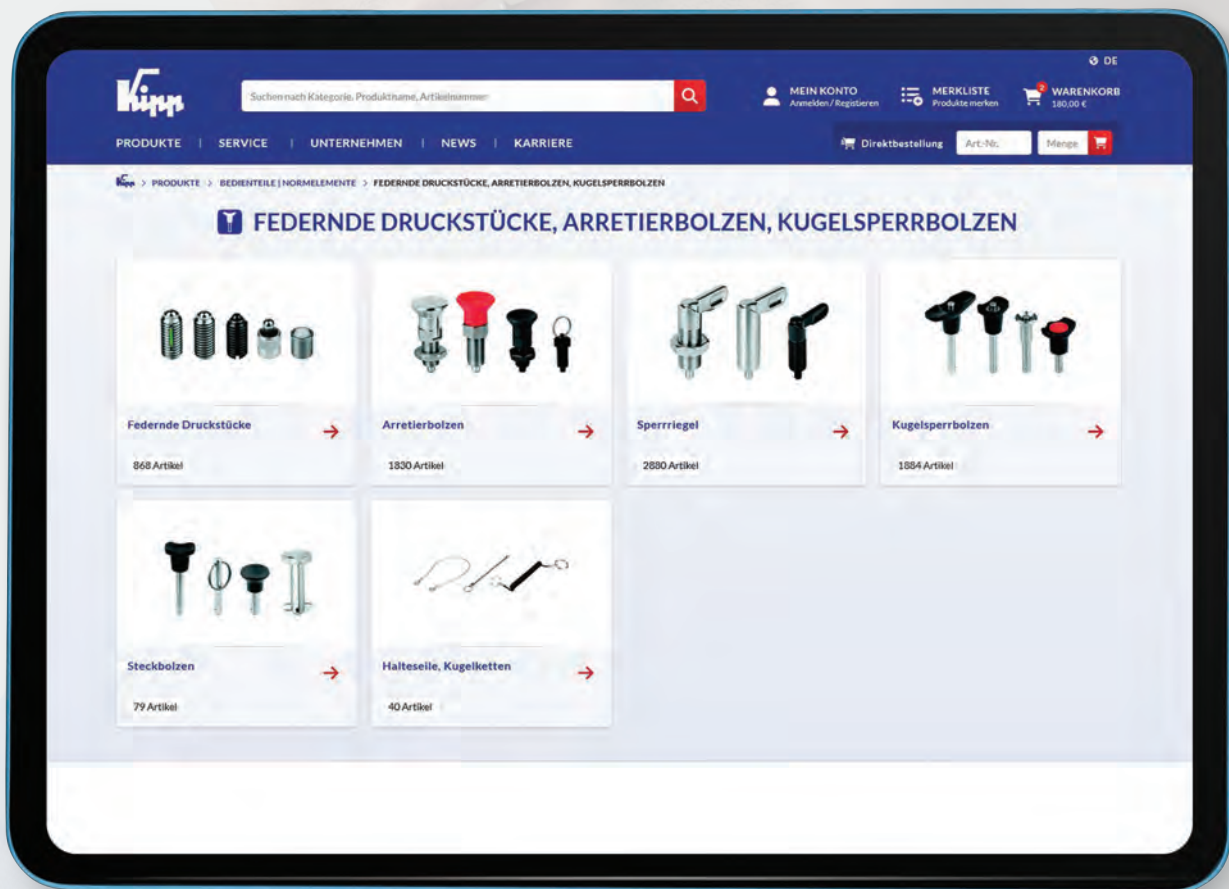


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