



Tubtara
BLIND RIVET NUTS



Tubtara®
Blind rivet nuts

By Dejong Fastening,
a Bossard Company



2024

Acquisition of Dejong Fastening NV
by Bossard Group
70 years of Tubtara production



Significant investments in production:
New ASPE threadformers & NH
heading machine

2022

2016

Improved ERP - CRM system

2014

EN 9100 / AS 9100
accreditation for the aerospace
Tubtara® 60 years of innovation!



First to cold form Tubtara's in
stainless A5 & A6

2013

2012

New coatings, development of
the watertight HX **Tubtara®**
in stainless 304 & 316



Important investments in the
production: heading machine for
production of more difficult parts,
degreasing and tapping machines

2008

2005

First to cold form blind rivet nuts in
stainless steel 316

2002

ISO 9001/2000 accreditation by BVQI
(Bureau Veritas)



Opening of an extension to the
production facility

2000

1989

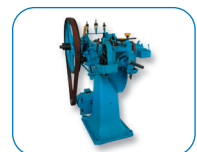
First to cold form blind rivet nuts in stainless
steel 304

1966

Dejong becomes one of the first
European manufacturers producing cold
formed blind rivet nuts

1954

Launch of the **Tubtara®**
blind rivet nut



1938

Dejong starts to manufacture solid rivets

1901

Foundation of the company by
the family Dejong



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● One address for all your fastenings

Great expertise and excellent service: Dejong Fastening makes it happen. And we do so as an industrial supplier of high-quality fastening systems and, since 1954, as a manufacturer of **Tubtara®** blind rivet nuts.



Part of the Bossard Group

In July 2024, Dejong NV was split into 2 independent entities: Dejong Metals and Dejong Fastening. The Dejong Fastening activities have been acquired by the Bossard Group, headquartered in Zug Switzerland. This includes the production of **Tubtara®** blind rivet nuts and the distribution of fastening systems in the Benelux and northern France.

The Bossard Group is a leading global provider of product solutions and services in industrial fastening and assembly technology. Bossard is distinguished by proven expertise in technical consulting and Smart inventory management. Bossard has been a trusted partner of Dejong for more than 30 years. Our technical know-how combined with Bossard's global market reach, technical sales expertise and trusted access to a wide range of products and services, creates great potential to offer even more value to all existing and new customers.

● Products and services

Your industrial supplier – Fastening systems for the manufacturing industry

Dejong Fastening is an industrial supplier of high-quality fastening systems for the manufacturing industry. With our expertise in the field of mechanical fasteners, our technical-commercial staff are excellently placed to guide you in making your choice.

Or what about our product specialists who join with you in finding setting tools specifically for your application? Our sales engineers will put on a demo or provide more information about automation projects on request.

- EN 9100 certification (in audit)
- Engineering customised to your needs
- Our own manufacture of **Tubtara®** blind rivet nuts in Antwerp
- We also offer complete solutions
- Aftersales service for fitting appliances (our own maintenance and repair services)
- Partner of leading producer-suppliers

Your industrial supplier – Fastening systems for the aviation industry

Since 1999 we have also been developing, producing and delivering products for the aviation industry. We are Airbus certified (Common Vendor No. 304142) and a Bombardier supplier. You can find the **Tubtara®** in:

- The sealing strip in leading edges
- Lighting at airports
- Lightweight aircraft seats
- Galley kitchens
- Trolleys on aircraft

Our own production – **Tubtara®** blind rivet nuts

In Wilrijk we produce our **Tubtara®** blind rivet nuts. This involves both a comprehensive standard range from stock, and an assortment customised in line with the specifications of our customers. The high-performance cold forming process also allows us to make complex parts. The **Tubtara®** is known for its high and consistent quality worldwide. Tubtara production will be EN9100 certified for the aviation industry (audit underway). Dejong has already been producing pioneering work in research, development and innovation for more than 70 years. We are now leading the field with our stainless steel Tubtara range and our watertight solutions. EU local production!

After-sales service

- Our product specialists advise you on the selection of setting tools adapted to the application.
- On request, our sales engineers give on-site customer demos or discuss automation projects.
- Our after-sales service provides in-house maintenance and repair services for all our setting equipment.

Quality is key

Quality is our guiding principle, and you can see that by our products, (after)service and carefully selected suppliers. Our dynamic employees have only one goal: creating added value for every customer.

We only offer you the highest quality brands. Tested and approved according to strict quality requirements. Currently, an audit is underway for a new EN 9100 certification for our **Tubtara®** blind rivet nuts, fastening systems, and their fitting appliances. This is required by the certification body (Cofac) due to the transfer of all activities of Dejong Fastening into a new company following the split of Dejong nv. We are a highly valued partner for industry, aircraft builders and various other sectors. Discover the benefits for your company and sector yourself.

● **Tubtara®** - Our Vision

"Dejong Fastening is known for the prompt delivery of technically high-quality products and excellent quality services for the manufacturing industry. We want to retain and even further bolster this market position by offering our customers a technical solution through one point of contact. The purpose is to have a supplier/customer relationship evolve to become a partnership, and as a result ensure sustainable growth of our added value. We believe very strongly that the driving force behind all this is the expertise and knowledge of our highly motivated employees. This in combination with open communication to our customers and other stakeholders means we can offer innovative solutions with the required quality on time, at a fitting price, and to the complete satisfaction of our customers. Together, we ensure a better future and consciously opt for corporate social entrepreneurship with attention to social aspects, safety and the environment."

– Peter Brans, General Manager

Decades of innovation

Over the last 7 decades, the **Tubtara®** division of Dejong Fastening has established itself as a pioneer in the production of blind rivet nuts based on a long tradition of innovation. It has been able to use its deep knowledge of materials and cold forming production processes to constantly develop its product portfolio. The **Tubtara®** team heads into the future with a clear vision:

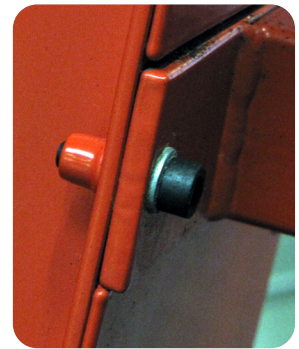
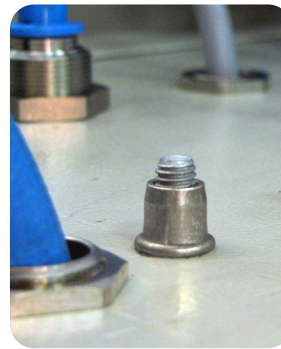
- High and consistent quality performance
- Innovation and in-house R&D
- Customer partnerships through technical and commercial support
- Worry-free deliveries



Tubtara® has the ambition to stay at the forefront of blind rivet nut design and manufacturing. As such, our goal is to continue to play a leading role in future technological developments, which is why we continue to invest in R&D.

Tubtara® blind rivet nuts

Tubtara® is a mechanical fastener that ensures a strong thread in thin and thick metal plates or profiles, in composites or (engineered) plastics. It is used in applications where there is little or no access from/at the rear. It can clinch separate sheets or profiles together - acting as a rivet - and enables the (dis)assembly of a third component via a bolt or screw.



● Benefits

10 reasons why you should choose **Tubtara®** blind rivet nuts:

1. Simple blind installation: applied from one side of the workpiece
2. Low assembly cost: versus other methods of installing threads in plates or profiles
3. Fast, easy assembly: further reducing the assembly cost
4. Zero-risk installation: no damage to the workpiece surface, enabling installation in pre-coated or pre-painted applications for a clean, undamaged thread
5. No deformation of the workpiece
6. No surface preparation required
7. Ideal for close-to-edge applications
8. Suitable for repeated assembly
9. Retained fastener: cf. machinery directive 2006/42/EC (unloseable after setting)
10. Low installation cost: no expensive tools or equipment required

● Applications

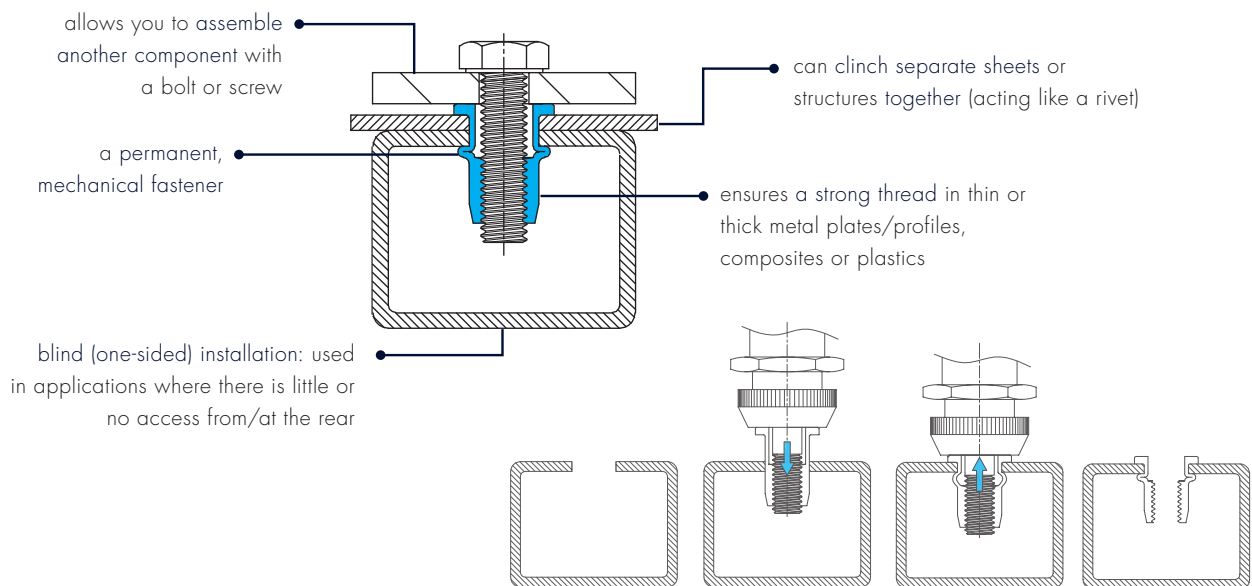
Tubtara® blind rivet nuts are used in all kinds of sheet metal, plastic and composite applications. They eliminate the need for tapping, welding or working with nuts and bolts. As such, they form an ideal solution for enclosed applications that can only be accessed from one side.

Some marketsegments:

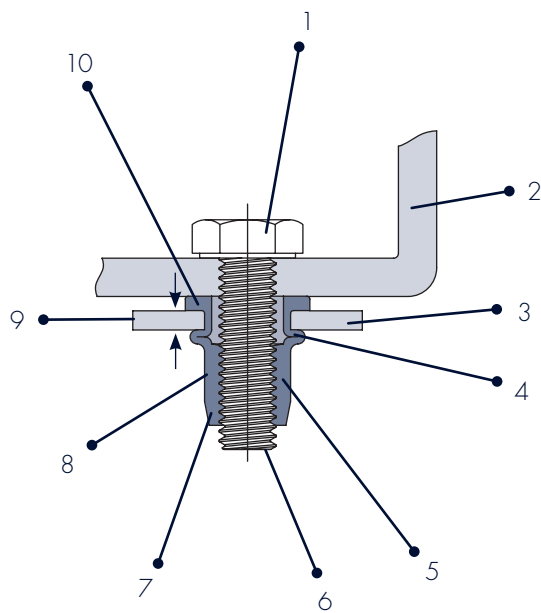
- Aerospace
- Automotive & EV
- White Goods
- Electronics
- General industrial
- Railways
- Food
- HVAC
- Chemicals
- Marine & Offshore
- Medical
- Truck & Trailer
- Agricultural & Construction Equipment

e.g. metal enclosures, cable trays, leg levelling, window & door profiles, benches, fences, airconditioning, solar panels, supports, roof racks & side bars, battery pack & power box covers

● Installation



Installation in less than 3 seconds!



● Terminology

1. Screw or bolt inserted for assembly
2. Assembled part
3. Workpiece: can be 1 sheet/profile or several sheets/profiles which require clinching
4. Bulb or counter head: the chamber (unthreaded section) is deformed during setting
5. Strong, secure internal thread
6. Open or closed end: closed-end version prevents the ingress of dirt and fluids especially in combination with an underhead seal
7. Chamfer: guides the **Tubtara®** into the hole
8. Shank: round, full- or semi-hexagonal, knurled or splined version
9. Grip: the exact material thickness of the workpiece
10. Head: flat, countersunk, low profile, sealed or customised head type (wedges, spikes,...)

● Part Description

Steel	M5	RS	UFO	40
Stainless	M10	H	DPX	25
Aluminium	M8	-	UPO	80
Steel	M10	H	SPX	110
Steel	M4	KN	UKO	30
↓	↓	↓	↓	↓
material	thread	shank	head & shank	max grip
RS: splined H: hexagonal KN: knurled -: round SH: semi-hex			U / S: Unigrip D: sealed F: countersunk head P: flat head K: low profile head O: open end X: closed end	40 = 4 mm 25 = 2,5 mm 80 = 8 mm 110 = 11 mm 30 = 3 mm

● How to choose the appropriate **Tubtara®** ?

- What kind of material and surface treatment do you need?
- What is the required thread size?
- Choose the correct griprange for the required material thickness of the application.
- Choose the required head and shank style.
- Do you need an open- or closed-end version?
- Check the technical characteristics of your chosen **Tubtara®**.

We highly recommend testing the product in your specific application in advance.

Samples are available on request.

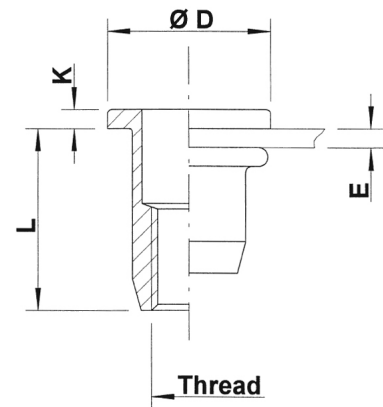
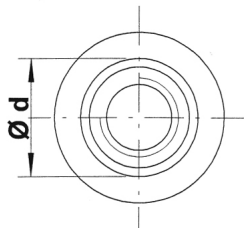
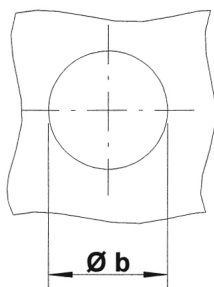




Stainless Steel 304

Round shank
Flat head
Open end

UPO / SPO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPO20	0,5-2,0	11,0	6,0	6,0	9,0	1,0	1,5	544010	(500)	7500
	UPO35	2,0-3,5	12,5					1,6	544020	(500)	5000
M5	UPO30	0,5-3,0	11,5	7,0	7,0	10,0	1,0	1,8	545040	(500)	4000
	UPO50	3,0-5,0	15,0					2,2	545050	(500)	3000
M6	UPO30	0,5-3,0	14,5	9,0	9,0	12,0	1,5	4,1	546020	(500)	2000
	UPO50	3,0-5,0	16,5					4,4	546035	(500)	2000
	UPO70	5,0-7,0	18,5					4,7	546050	(500)	2000
M8	UPO30	0,5-3,0	16,0	11,0	11,0	15,0	1,5	6,1	548010	(500)	1250
	UPO55	3,0-5,5	18,5					6,5	548020	(500)	1250
	UPO80	5,5-8,0	21,5					7,5	548035	(500)	1000
M10	UPO30	0,8-3,0	18,5	12,1	12,0	15,0	1,0	5,9	540020	(500)	1000
	UPO50	3,0-5,0	20,5					6,4	540030	(500)	1000
M10	SPO35	0,8-3,5	21,5	13,0	13,0	17,0	1,5	10,2	540600	(100)	750
	SPO60	3,5-6,0	24,0					10,9	540605	(100)	750
	SPO85	6,0-8,5	26,5					11,6	540606	(100)	500
M12	UPO40	1,0-4,0	25,0	16,0	16,0	23,0	2,0	19,8	542020	(100)	400
	UPO70	3,0-7,0	28,0					21,5	542050	(100)	300

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All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter "Technical Information"

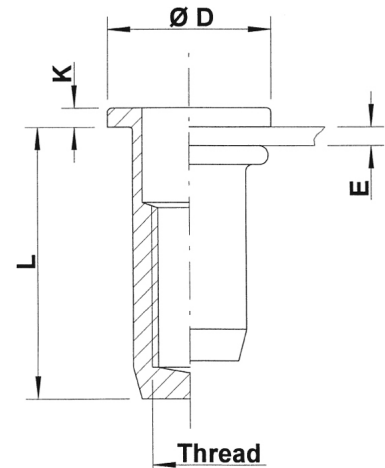
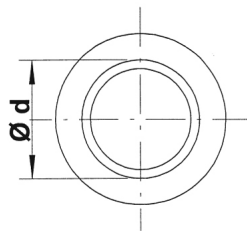
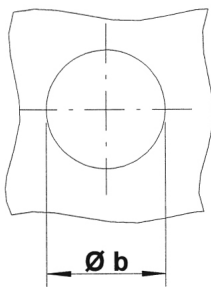




Stainless Steel 304

Round shank
Flat head
Closed end

UPX / SPX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPX20	0,5-2,0	15,0	6,0	6,0	9,0	1,0	2,2	544110	(500)	5000
	UPX35	2,0-3,5	16,5					2,3	544115*	-	-
M5	UPX30	0,5-3,0	17,5	7,0	7,0	10,0	1,0	3,0	545180	(500)	2500
	UPX50	3,0-5,0	19,5					3,2	545185	(500)	2500
M6	UPX30	0,5-3,0	21,5	9,0	9,0	12,0	1,5	6,6	546100	(500)	1500
	UPX50	3,0-5,0	23,5					6,9	546105	(500)	1500
M8	UPX30	0,5-3,0	23,5	11,0	11,0	15,0	1,5	9,9	548065	(500)	1000
	UPX55	3,0-5,5	26,0					10,2	548066	(500)	750
M10	SPX35	0,8-3,5	28,5	13,0	13,0	17,0	1,5	16,0	540630	(100)	500
	SPX60	3,5-6,0	31,0					17,0	540631	(100)	500
M12	UPX70	3,0-7,0	38,0	16,0	16,0	23,0	2,0	31,0	542200*	-	200

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* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter "Technical Information"

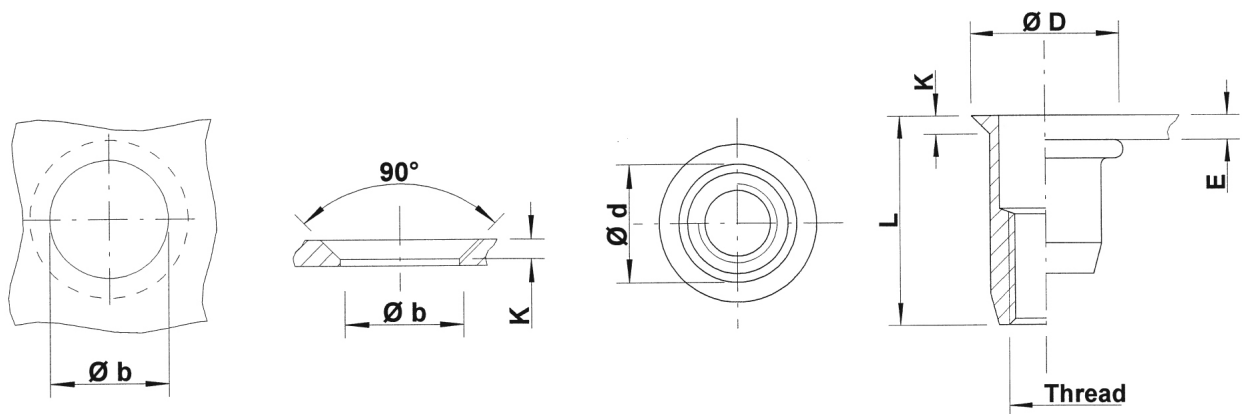




Stainless Steel 304

Round shank
Countersunk head
Open end

UFO / SFO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFO30	1,2-3,0	12,0	6,0	6,0	8,0	1,0	1,3	544120	(500)	7500
M5	UFO35	1,2-3,5	12,0	7,0	7,0	9,0	1,0	1,6	545200	(500)	5000
M6	UFO45	1,7-4,5	17,0	9,0	9,0	12,0	1,5	4,2	546125	(500)	2000
	UFO65	4,5-6,5	19,0					4,5	546130*	(500)	2000
M8	UFO45	1,7-4,5	17,5	11,0	11,0	14,0	1,5	5,5	548070	(500)	1250
	UFO65	4,5-6,5	19,5					5,8	548075	(500)	1250
M10	UFO45	1,7-4,5	20,0	12,1	12,0	15,0	1,5	5,9	540090	(100)	1000
M10	SFO45	1,7-4,5	22,5	13,0	13,0	16,0	1,5	9,5	540610	(100)	750
M12	UFO55	2,0-5,5	27,0	16,0	16,0	19,0	1,8	18,0	542260*	(100)	400

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All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

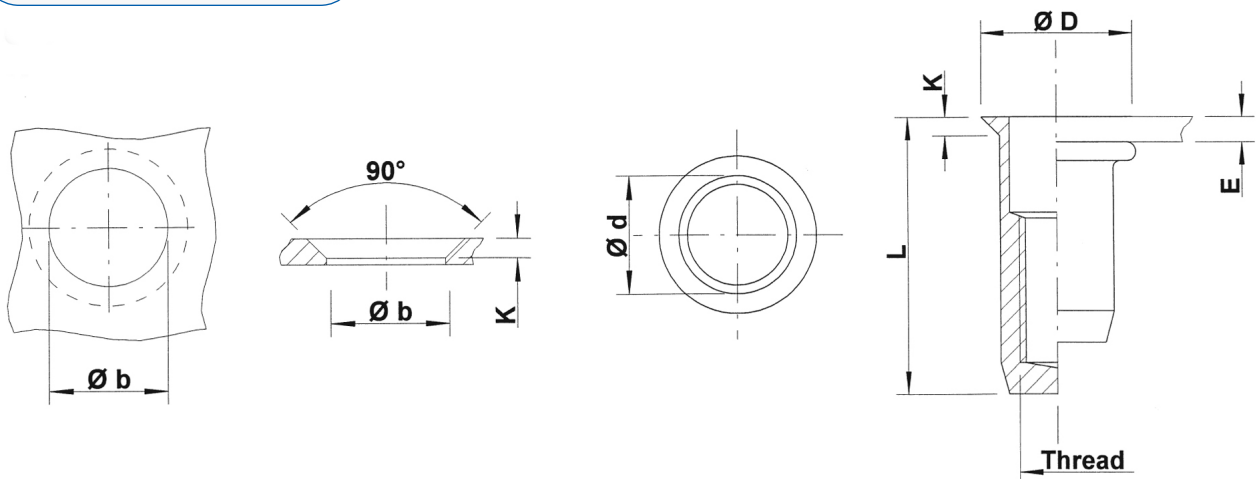




Stainless Steel 304

Round shank
Countersunk head
Closed end

UFX / SFX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFX30	1,2-3,0	16,0	6,0	6,0	8,0	1,0	2,0	544210	(500)	5000
M5	UFX35	1,2-3,5	18,0	7,0	7,0	9,0	1,0	2,8	545340	(500)	3500
M6	UFX45	1,7-4,5	24,0	9,0	9,0	12,0	1,5	6,7	546260	(500)	1500
	UFX65	4,5-6,5	26,0					7,0	546270	(500)	1500
M8	UFX45	1,7-4,5	25,0	11,0	11,0	14,0	1,5	9,3	548150	(500)	1200
	UFX65	4,5-6,5	27,0					9,6	548155	(500)	800
M10	SFX45	1,7-4,5	30,5	13,0	13,0	16,0	1,5	14,3	540615	(100)	500
M12	UFX55	2,0-5,5	37,0	16,0	16,0	19,0	1,8	27,5	542360*	100	-

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Tolerances and characteristics see chapter 'Technical Information'

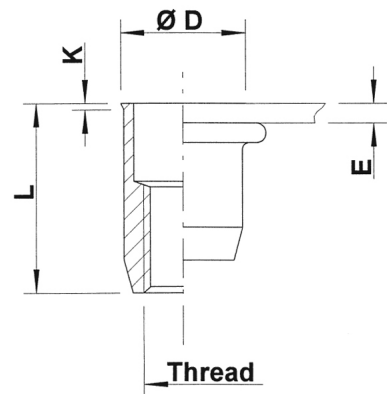
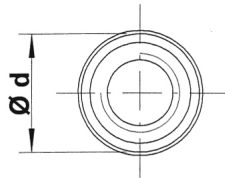
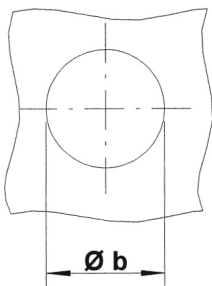




Stainless Steel 304

Round shank
Low profile head
Open end

UKO / SKO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKO20	0,5-2,0	11,0	6,0	6,0	6,5	0,5	1,1	544220	1000	10000
M5	UKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	545400	1000	5000
	UKO50	3,0-5,0	15,0					1,8	545420	(500)	5000
M6	UKO30	0,5-3,0	14,5	9,0	9,0	9,5	0,5	3,4	546400	1000	3000
	UKO50	3,0-5,0	16,5					3,7	546420	-	2000
M8	UKO30	0,5-3,0	16,0	11,0	11,0	11,5	0,5	5,0	548160	1000	2000
	UKO55	3,0-5,5	18,5					5,5	548180	(500)	1500
M10	SKO35	0,8-3,5	21,0	13,0	13,0	13,5	0,7	8,5	540620	(100)	1000
	SKO60	3,5-6,0	23,5					9,5	540625	-	750
M12	UKO40	1,0-4,0	26,0	16,0	16,0	16,8	1,1	17,0	542400*	-	-

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All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

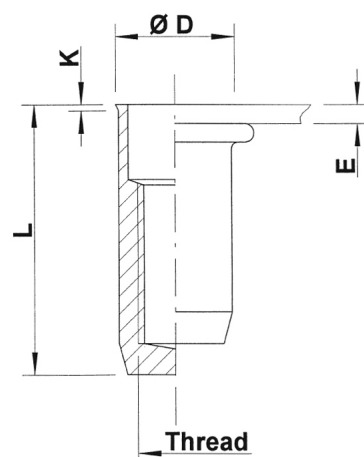
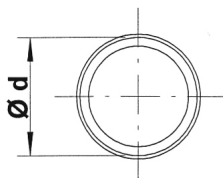
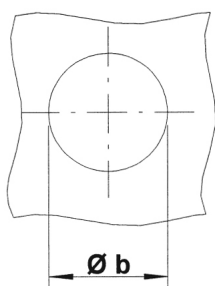




Stainless Steel 304

Round shank
Low profile head
Closed end

UKX / SKX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKX20	0,5-2,0	15,5	6,0	6,0	6,5	0,5	1,9	544250	(500)	5000
M5	UKX30	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,7	545450	(500)	4000
M6	UKX30	0,5-3,0	21,5	9,0	9,0	9,5	0,5	5,8	546450	(500)	2000
M8	UKX30	0,5-3,0	24,0	11,0	11,0	11,5	0,5	8,8	548190	(500)	1250
M10	SKX35	0,8-3,5	29,5	13,0	13,0	13,5	0,7	14,3	540650*	-	500

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All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



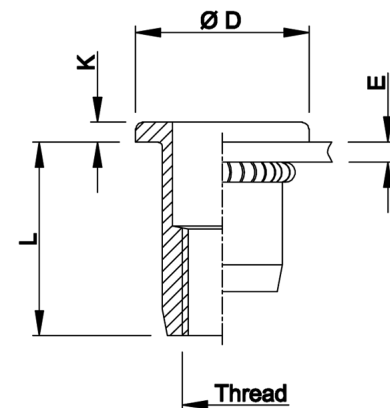
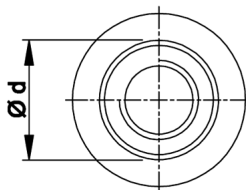
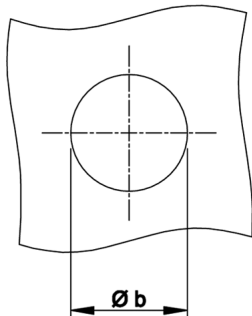


Stainless Steel 304

Knurled shank
Flat head
Open end

UPO KN / SPO KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPO20 KN	0,5-2,0	11,0	6,0	6,0	9,0	1,0	1,5	5440107*	-	7500
M5	UPO30 KN	0,5-3,0	11,5	7,0	7,0	10,0	1,0	1,8	5450407*	-	4000
	UPO50 KN	3,0-5,0	15,0					2,2	5450507*	-	3000
M6	UPO30 KN	0,5-3,0	14,5	9,0	9,0	12,0	1,5	4,1	5460207	(500)	2000
	UPO50 KN	3,0-5,0	16,5					4,4	5460357*	-	2000
M8	UPO30 KN	0,5-3,0	16,0	11,0	11,0	16,0	1,5	6,1	5480107*	-	1250
	UPO55 KN	3,0-5,5	18,5					6,5	5480207*	-	1250
M10	SPO35 KN	0,8-3,5	21,5	13,0	13,0	17,0	1,5	10,2	5406007*	-	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress, also possible in SS316Cu

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



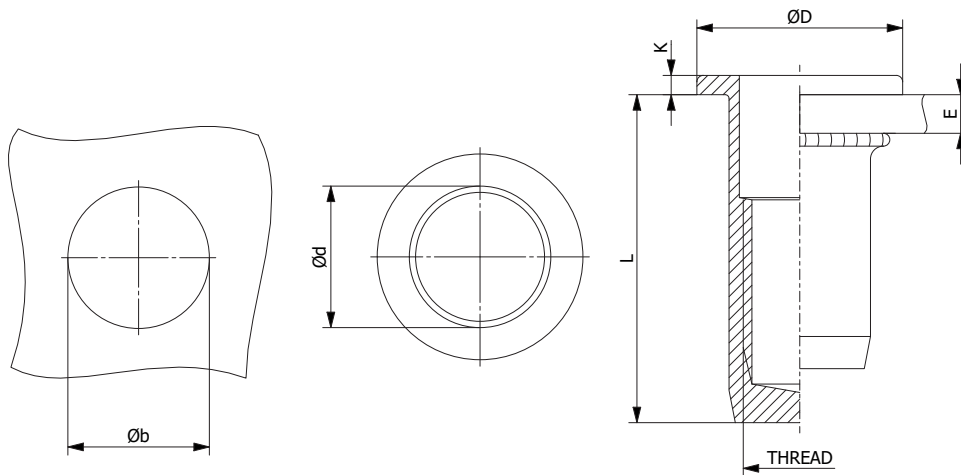


Stainless Steel 304

Knurled shank
Flat head
Closed end

UPX KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M5	UPX30 KN	0,5-3,0	17,5	7,0	7,0	10,0	1,0	3,0	5451807*	-	2500
M6	UPX30 KN	0,5-3,0	21,5	9,0	9,0	12,0	1,5	6,6	5461007*	-	1500
M8	UPX30 KN	0,5-3,0	23,5	11,0	11,0	16,0	1,5	9,9	5480657*	-	1000
	UPX55 KN	3,0-5,5	26					10,2	5480667*		

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress, also possible in SS316Cu

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



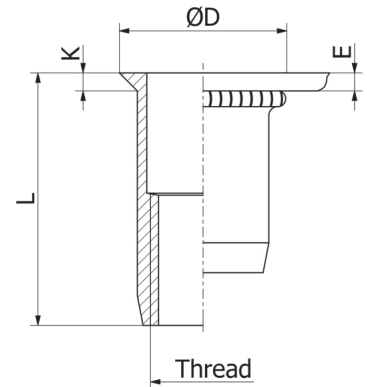
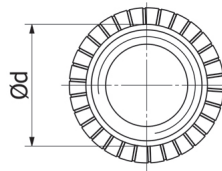
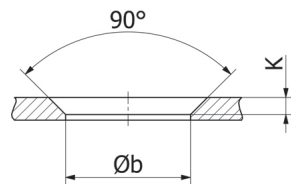
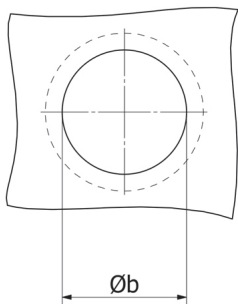


Stainless Steel 304

Knurled shank
Countersunk head with knurl
Open end

UFO KN / SFO KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFO30 KN	1,2-3,0	12,0	6,0	6,0	8,0	1,0	1,3	5441207*	-	7500
M5	UFO35 KN	1,2-3,5	12,0	7,0	7,0	9,0	1,0	1,6	5452007*	-	5000
M6	UFO45 KN	1,7-4,5	17,0	9,0	9,0	12,0	1,5	4,2	5461257*	-	2000
M8	UFO45 KN	1,7-4,5	17,5	11,0	11,0	14,0	1,5	5,5	5480707*	-	1250
M10	SFO45 KN	1,7-4,5	22,5	13,0	13,0	16,0	1,5	5,9	5406107*	-	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress, also possible in SS316Cu

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



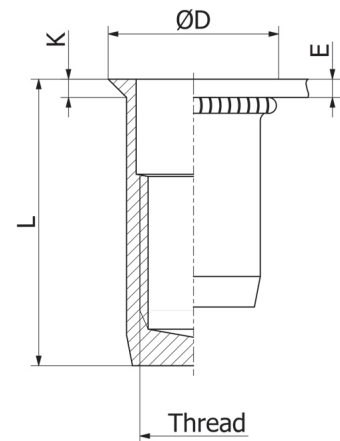
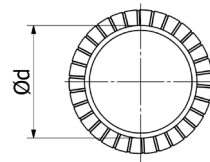
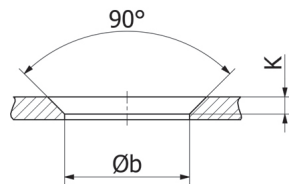
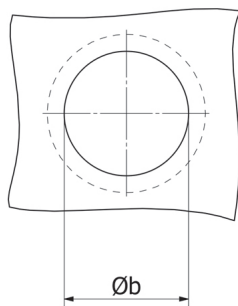


Stainless Steel 304

Knurled shank
Countersunk head with knurl
Closed end

UFX KN / SFX KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFX30 KN	1,2-3,0	16,0	6,0	6,0	8,0	1,0	2,0	5442107*	(500)	5000
M5	UFX35 KN	1,2-3,5	18,0	7,0	7,0	9,0	1,0	2,9	5453407*	(500)	3500
M6	UFX45 KN	1,7-4,5	24,0	9,0	9,0	12,0	1,5	6,8	5462607*	(500)	1500
M8	UFX45 KN	1,7-4,5	25,0	11,0	11,0	14,0	1,5	9,3	5481507*	(500)	1200
M10	SFX45 KN	1,7-4,5	30,5	13,0	13,0	16,0	1,5	13,3	5406157*	(100)	500

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress, also possible in SS316Cu

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



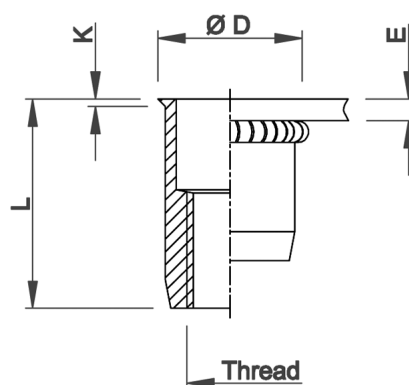
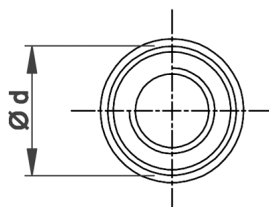
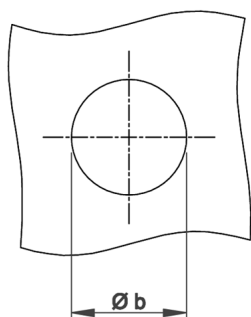


Stainless Steel 304

Knurled shank
Low profile head
Open end

UKO KN / SKO KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKO20 KN	0,5-2,0	11,0	6,0	6,0	6,5	0,5	1,1	5442207	(500)	10000
M5	UKO30 KN	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	5454007	(500)	5000
	UKO50 KN	3,0-5,0	15,0					1,8	5454207*	-	5000
M6	UKO30 KN	0,5-3,0	14,5	9,0	9,0	9,5	0,5	3,4	5464007	(500)	3000
	UKO50 KN	3,0-5,0	16,5					3,7	5464207*	-	2500
M8	UKO30 KN	0,5-3,0	16,0	11,0	11,0	11,5	0,5	5,0	5481607	(500)	2000
	UKO55 KN	3,0-5,5	18,5					5,5	5481807*	-	1500
M10	SKO35 KN	0,8-3,5	21,0	13,0	13,0	13,5	0,7	8,5	5406207*	-	1000

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress, also possible in SS316Cu

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



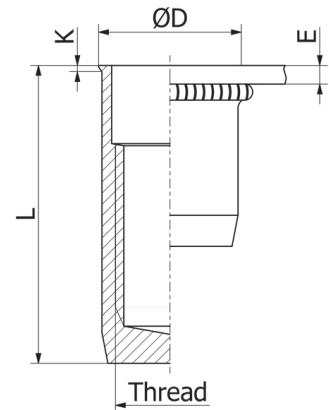
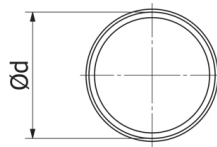
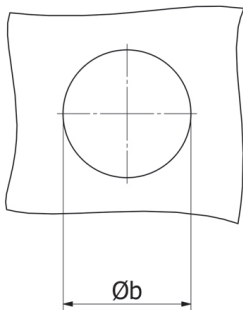


Stainless Steel 304

Knurled shank
Low profile head
Closed end

UKX KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M5	UKX30 KN	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,7	5454507*	-	4000
M6	UKX30 KN	0,5-3,0	21,5	9,0	9,0	9,5	0,5	5,8	5464507*	-	2000
M8	UKX30 KN	0,5-3,0	24,0	11,0	11,0	11,5	0,5	8,8	5481907*	-	1250

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress, also possible in SS316Cu

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

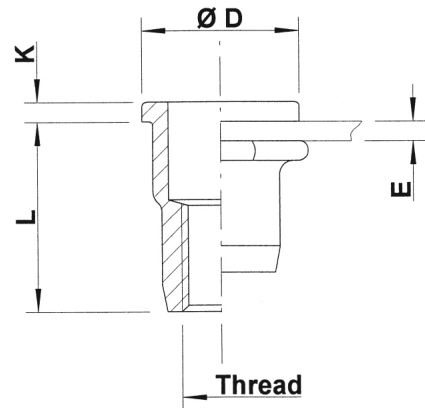
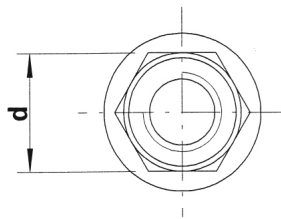
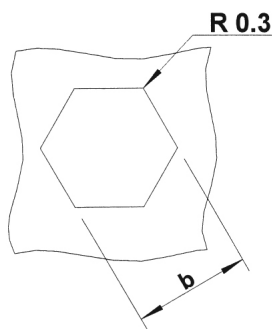




Stainless Steel 304

Semi-hexagonal shank
Flat head
Open end

HUPO / HSPO



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUPO20	0,5-2,0	11,0	6,0	6,0	9,0	1,0	1,5	544500	(500)	7500
	HUPO30	1,0-3,0	12,0					1,6	544510*	-	-
M5	HUPO30	0,5-3,0	11,5	7,0	7,0	10,0	1,0	1,8	545500	(500)	4000
	HUPO50	3,0-5,0	13,5					2,0	545505	(500)	4000
M6	HUPO30	0,5-3,0	14,5	9,0	9,0	12,0	1,5	4,0	546460	(500)	2500
	HUPO50	3,0-5,0	16,5					4,3	546485	(500)	2000
M8	HUPO30	0,5-3,0	16,0	11,0	11,0	15,0	1,5	6,1	548250	(500)	1250
	HUPO55	3,0-5,5	18,5					6,4	548270	(500)	1000
M10	HSPO35	0,8-3,5	21,5	13,0	13,0	17,0	1,5	11,0	540632	(100)	750
	HSPO60	3,5-6,0	24,0					12,0	540633	(100)	700
M12	HUPO70	3,0-7,0	28,0	16,0	16,0	23,0	2,0	22,0	542640	(100)	300

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

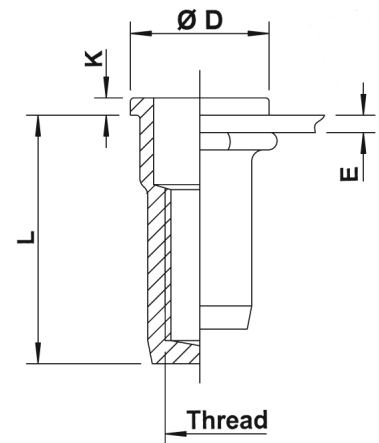
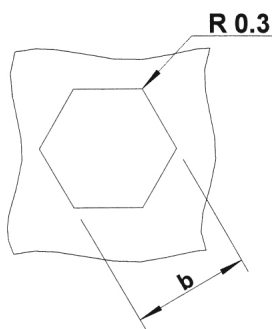




Stainless Steel 304

Semi-hexagonal shank
Flat head
Closed end

HUPX / HSPX



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUPX20	0,5-2,0	15,0	6,0	6,0	9,0	1,0	2,2	544520	(500)	5000
	HUPX30	1,0-3,0	16,0					2,3	544530*	-	-
M5	HUPX30	0,5-3,0	17,5	7,0	7,0	10,0	1,0	3,0	545520	(500)	2500
	HUPX50	3,0-5,0	19,5					3,2	545525	(500)	2000
M6	HUPX30	0,5-3,0	21,5	9,0	9,0	12,0	1,5	6,6	546470	(500)	1500
	HUPX50	3,0-5,0	23,5					6,9	546475	(500)	1250
M8	HUPX30	0,5-3,0	23,5	11,0	11,0	15,0	1,5	9,6	548260	(500)	750
	HUPX55	3,0-5,5	26,0					10,0	548280	(500)	1000
	HUPX80	5,5-8,0	28,5					10,6	548285	-	750
M10	HSPX35	0,8-3,5	28,5	13,0	13,0	17,0	1,5	16,0	540635	(100)	500
	HSPX60	3,5-6,0	31,0					17,0	540636	(100)	500
M12	HUPX70	3,0-7,0	38,0	16,0	16,0	23,0	2,0	31,5	542680	(100)	300

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

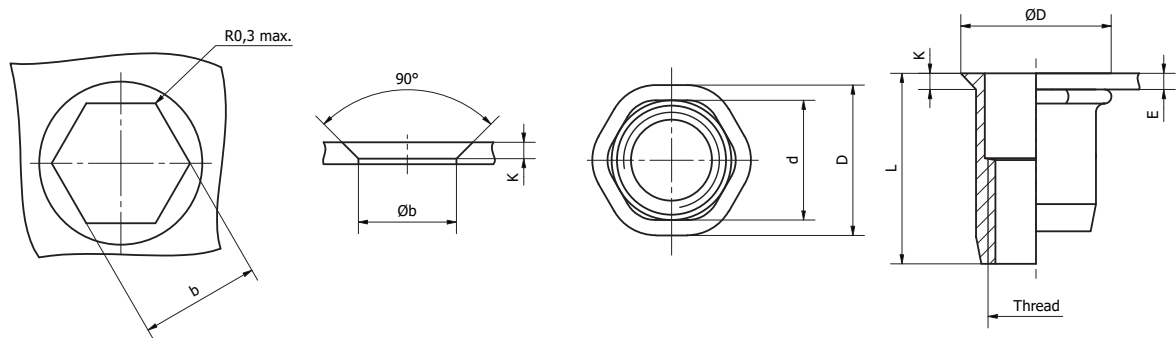




Stainless Steel 304

Semi-hexagonal shank
Countersunk head
Open end

HUFO



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M6	HUFO45	1,5-4,5	17,0	9,0	9,0	12,1	1,5	4,2	546914*	-	2000
M8	HUFO45	1,5-4,5	17,5	11,0	11,0	13,8	1,5	5,6	548907*	-	1250

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

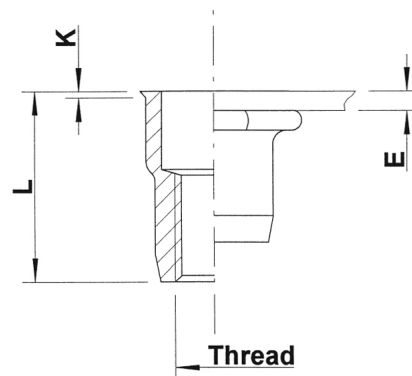
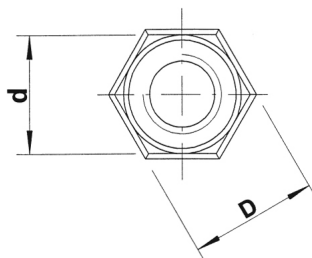
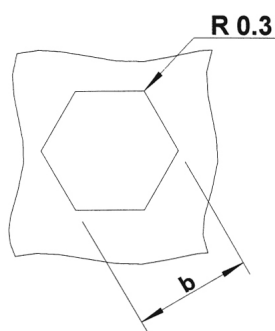




Stainless Steel 304

Semi-hexagonal shank
Low profile head
Open end

HUKO / HSKO



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUKO20	0,5-2,0	11,0	6,0	6,0	6,5	0,5	1,2	544600	1000	7500
	HUKO30	2,0-3,0	11,0					1,3	544909*	-	7500
M5	HUKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	545600	1000	5000
	HUKO50	3,0-5,0	14,0					1,7	545605	(500)	5000
M6	HUKO30	0,5-3,0	14,5	9,0	9,0	9,7	0,5	3,3	546500	1000	3000
	HUKO50	3,0-5,0	16,5					3,6	546525	(500)	2500
	HUKO70	5,0-7,0	18,5					3,9	546580*	-	2000
M8	HUKO30	0,5-3,0	16,0	11,0	11,0	11,8	0,5	4,9	548300	500	2000
	HUKO55	3,0-5,5	18,5					5,3	548305	(500)	1500
	HUKO80	5,5-8,0	21,0					5,7	548310*	-	-
M10	HSKO35	0,8-3,5	21,0	13,0	13,0	13,8	0,7	8,4	540640	(100)	1000
	HSKO60	3,5-6,0	23,5					9,4	540645*	-	750
M12	HUKO70	4,0-7,0	29,4	16,0	16,0	17,5	1,1	17,0	542840	(100)	500

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

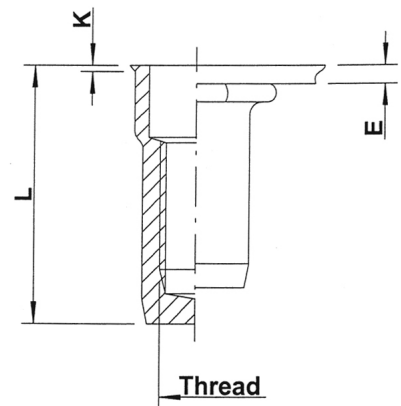
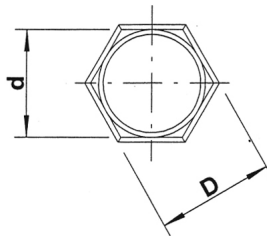
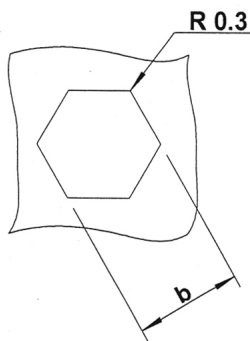




Stainless Steel 304

Semi-hexagonal shank
Low profile head
Closed end

HUKX / HSKX



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUKX20	0,5-2,0	15,5	6,0	6,0	6,5	0,5	1,8	544620	(500)	5000
	HUKX30	2,0-3,0	16,5					1,9	544640*	-	5000
M5	HUKX30	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,7	545620	(500)	4000
	HUKX50	3,0-5,0	20,5					2,9	545640	(500)	3000
M6	HUKX30	0,5-3,0	21,5	9,0	9,0	9,7	0,5	5,7	546540	(500)	2000
	HUKX50	3,0-5,0	23,5					6,1	546565	(500)	2000
	HUKX70	5,0-7,0	25,5					6,5	546590*	-	1500
M8	HUKX30	0,5-3,0	24,0	11,0	11,0	11,8	0,5	8,7	548320	(500)	1000
	HUKX55	3,0-5,5	26,5					9,1	548340	(500)	1000
	HUKX80	5,5-8,0	29,0					9,5	548350*	-	750
M10	HSKX35	0,8-3,5	29,5	13,0	13,0	13,8	0,7	14,2	540660	(100)	700
	HSKX60	3,5-6,0	32,0					15,2	540670*	-	500
M12	HUKX70	4,0-7,0	39,0	16,0	16,0	17,5	1,1	28,7	542880	(100)	300

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'





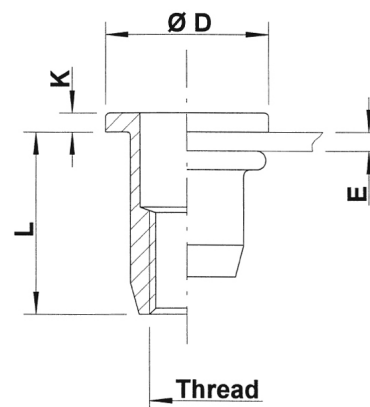
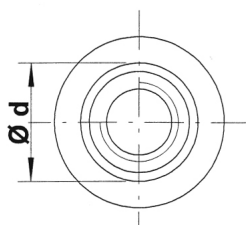
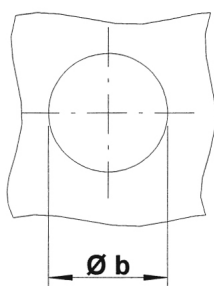
Stainless Steel 316

(contains > 2% Molybden)

Round shank
Flat head
Open end

UPO / SPO

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPO20	0,5-2,0	11,0	6,0	6,0	9,0	1,0	1,5	554010	(500)	3000
	UPO35	2,0-3,5	12,5					1,6	554020*	-	-
M5	UPO30	0,5-3,0	11,5	7,0	7,0	10,0	1,0	1,8	555040	(500)	2000
	UPO50	3,0-5,0	15,0					2,2	555050	-	2000
M6	UPO30	0,5-3,0	14,5	9,0	9,0	12,0	1,5	4,1	556020	(500)	1000
	UPO50	3,0-5,0	16,5					4,5	556035	(500)	1000
	UPO70	5,0-7,0	18,5					4,7	556050	(500)	750
M8	UPO30	0,5-3,0	16,0	11,0	11,0	15,0	1,5	6,1	558010	-	500
	UPO55	3,0-5,5	18,5					6,5	558020	-	500
	UPO80	5,5-8,0	21,5					7,1	558035	-	500
M10	SPO35	0,8-3,5	21,5	13,0	13,0	17,0	1,5	10,2	550600	(100)	750
	SPO60	3,5-6,0	24,0					10,9	550605	(100)	350
	SPO85	6,0-8,5	26,5					12,0	550606*	-	-
M12	UPO40	1,0-4,0	25,0	16,0	16,0	23,0	2,0	19,8	552020*	-	-
	UPO70	3,0-7,0	28,0					21,5	552050	-	150

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

KN knurl on request





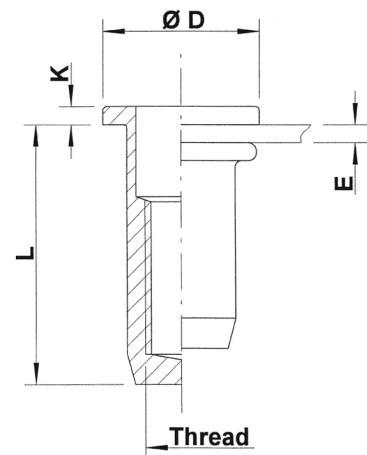
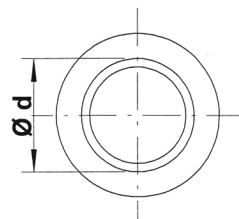
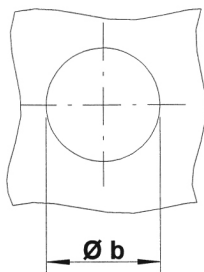
Stainless Steel 316

(contains > 2% Molybden)

Round shank
Flat head
Closed end

UPX / SPX

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPX20	0,5-2,0	15,0	6,0	6,0	9,0	1,0	2,2	554110	(500)	1500
	UPX35	2,0-3,5	16,5					2,3	554115*	-	-
M5	UPX30	0,5-3,0	17,5	7,0	7,0	10,0	1,0	3,0	555180	(500)	1500
	UPX50	3,0-5,0	19,5					3,2	555185	(500)	1500
M6	UPX30	0,5-3,0	21,5	9,0	9,0	12,0	1,5	6,6	556100	(500)	750
	UPX50	3,0-5,0	23,5					6,9	556105	(500)	750
M8	UPX30	0,5-3,0	23,5	11,0	11,0	15,0	1,5	9,9	558065	(500)	1000
	UPX55	3,0-5,5	26,0					10,2	558066	-	400
	UPX80	5,5-8,0	28,5					10,8	558067	-	400
M10	SPX35	0,8-3,5	28,5	13,0	13,0	17,0	1,5	16,0	550630*	-	300
	SPX60	3,5-6,0	31,0					17,0	550631*	-	250
	SPX85	6,0-8,5	33,5					18,0	550634*	-	-
M12	UPX40	1,0-4,0	35,0	16,0	16,0	23,0	2	29,0	552100*	-	-
	UPX70	3,0-7,0	38,0					31,0	552200*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

KN knurl on request





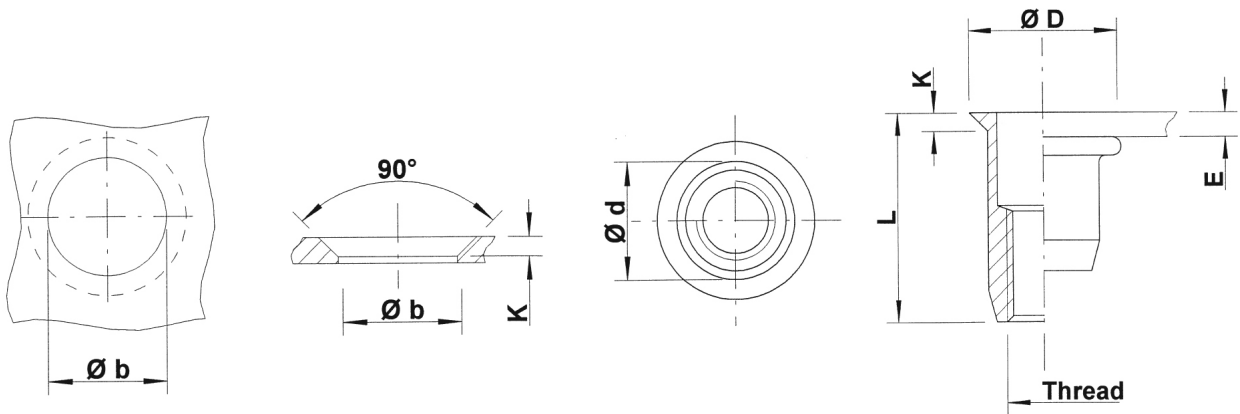
Stainless Steel 316

(contains > 2% Molybden)

Round shank
Countersunk head
Open end

UFO / SFO

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFO30	1,2-3,0	12,0	6,0	6,0	8,0	1,0	1,3	554120*	-	3500
M5	UFO35	1,2-3,5	12,0	7,0	7,0	9,0	1,0	1,6	555200	(500)	2000
M6	UFO45	1,7-4,5	17,0	9,0	9,0	12,0	1,5	4,2	556125	(500)	1000
	UFO65	4,5-6,5	19,0					4,5	556130*	-	-
M8	UFO45	1,7-4,5	17,5	11,0	11,0	14,0	1,5	5,5	558070	(500)	750
	UFO65	4,5-6,5	19,5					5,8	558075	-	-
M10	SFO45	1,7-4,5	22,5	13,0	13,0	16,0	1,5	9,5	550610*	-	350
M12	UFO55	2,0-5,5	27,0	16,0	16,0	19,0	1,8	18,0	552260*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

KN knurl on request





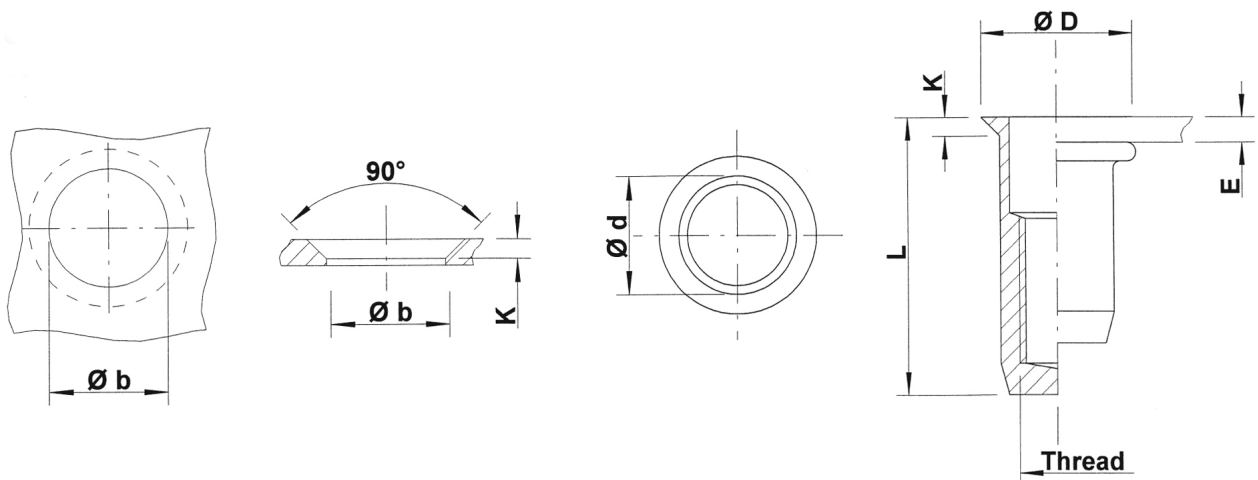
Stainless Steel 316

(contains > 2% Molybden)

Round shank
Countersunk head
Closed end

UFX / SFX

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFX30	1,2-3,0	16,0	6,0	6,0	8,0	1,0	2,0	554210*	-	-
M5	UFX35	1,2-3,5	18,0	7,0	7,0	9,0	1,0	2,8	555340	(500)	1500
M6	UFX45	1,7-4,5	24,0	9,0	9,0	12,0	1,5	6,7	556260	(500)	750
	UFX65	4,5-6,5	26,0					7,0	556270*	-	-
M8	UFX45	1,7-4,5	25,0	11,0	11,0	14,0	1,5	9,3	558150	-	500
	UFX65	4,5-6,5	27,0					9,6	558155*	-	-
M10	SFX45	1,7-4,5	30,5	13,0	13,0	16,0	1,5	14,3	550615*	-	250
M12	UFX55	2,0-5,5	37,0	16,0	16,0	19,0	1,8	27,5	552360*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

KN knurl on request





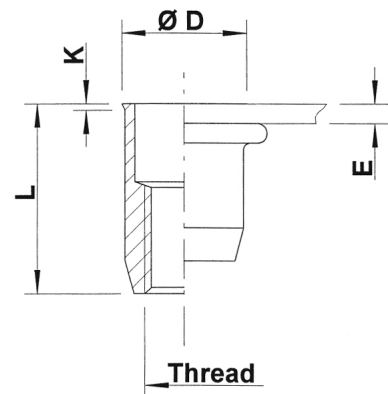
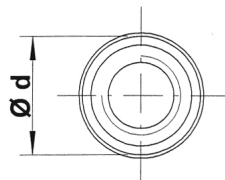
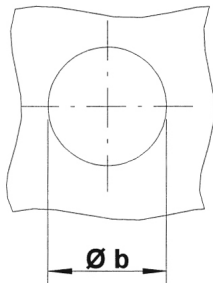
Stainless Steel 316

(contains > 2% Molybden)

Round shank
Low profile head
Open end

UKO / SKO

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKO20	0,5-2,0	11,0	6,0	6,0	6,5	0,5	1,1	554220	(500)	3000
M5	UKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	555400	(500)	2000
	UKO50	3,0-5,0	15,0					1,8	555420	-	2000
M6	UKO30	0,5-3,0	14,5	9,0	9,0	9,5	0,5	3,4	556400	(500)	1000
	UKO50	3,0-5,0	16,5					3,7	556420	(500)	1000
M8	UKO30	0,5-3,0	16,0	11,0	11,0	11,5	0,5	5,0	558160	-	500
	UKO55	3,0-5,5	18,5					5,5	558180	-	700
M10	SKO35	0,8-3,5	21,0	13,0	13,0	13,5	0,7	8,5	550620	(100)	500
	SKO60	3,5-6,0	23,5					9,5	550625	-	400
M12	UKO40	1,0-4,0	26,0	16,0	16,0	16,8	1,1	17,0	552400*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

KN knurl on request





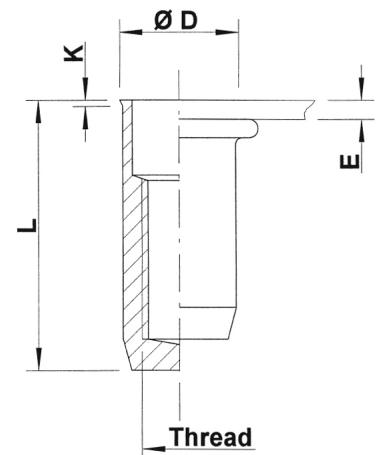
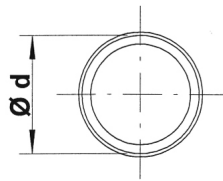
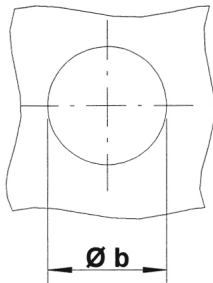
Stainless Steel 316

(contains > 2% Molybden)

Round shank
Low profile head
Closed end

UKX / SKX

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKX20	0,5-2,0	15,5	6,0	6,0	6,5	0,5	1,9	554250	(500)	2000
M5	UKX30	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,7	555450	(500)	1500
M6	UKX30	0,5-3,0	21,5	9,0	9,0	9,5	0,5	5,8	556450	(500)	1000
M8	UKX30	0,5-3,0	24,0	11,0	11,0	11,5	0,5	8,8	558190	-	500
M10	SKX35	0,8-3,5	28,0	13,0	13,0	13,5	0,7	13,5	550650	-	-
	SKX60	3,5-6,0	30,5					-	550651	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

KN knurl on request





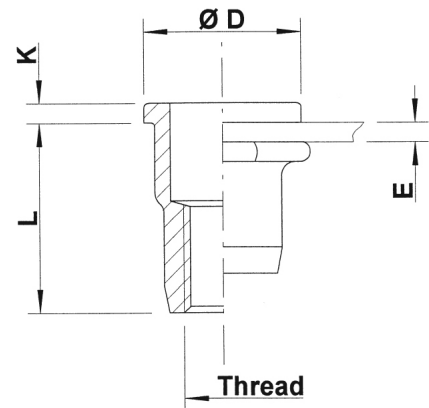
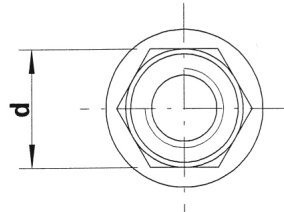
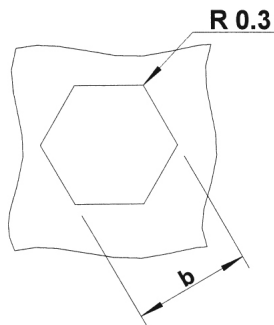
Stainless Steel 316

(contains > 2% Molybden)

Semi-hexagonal shank
Flat head
Open end

HUPO / HSPO

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUPO20	0,5-2,0	11,0	6,0	6,0	9,0	1,0	1,5	554500	(500)	2500
	HUPO30	1,0-3,0	12,0					1,6	554510*	-	-
M5	HUPO30	0,5-3,0	11,5	7,0	7,0	10,0	1,0	1,8	555500	(500)	2000
	HUPO50	3,0-5,0	13,5					2,0	555505*	-	-
M6	HUPO30	0,5-3,0	14,5	9,0	9,0	12,0	1,5	4,0	556460	(500)	1000
	HUPO50	3,0-5,0	16,5					4,3	556485*	-	1000
M8	HUPO30	0,5-3,0	16,0	11,0	11,0	15,0	1,5	6,1	558250	-	1250
	HUPO55	3,0-5,5	18,5					6,4	558270*	-	500
M10	HSPO35	0,8-3,5	21,5	13,0	13,0	17,0	1,5	11,0	550632	(100)	750
	HSPO60	3,5-6,0	24,0					12,0	550633*	-	700
M12	HUPO70	3,0-7,0	28,0	16,0	16,0	23,0	2,0	22,0	552640*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





Stainless Steel 316

(contains > 2% Molybden)

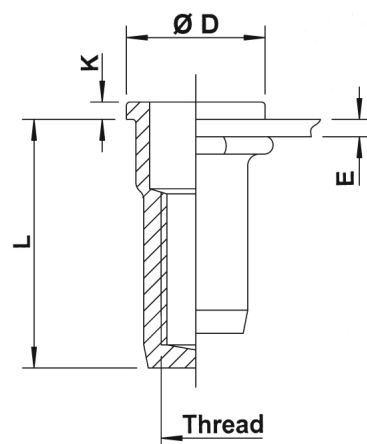
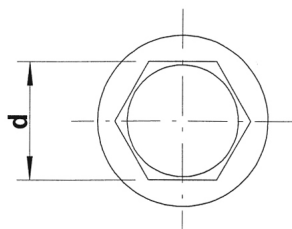
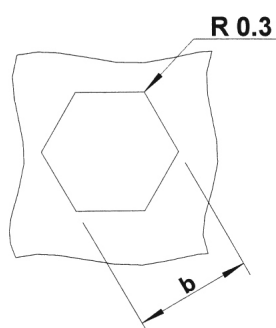
Semi-hexagonal shank

Flat head

Closed end

HUPX / HSPX

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUPX20	0,5-2,0	15,0	6,0	6,0	9,0	1,0	2,2	554520	(500)	2000
	HUPX30	0,1-3,0	16,0					2,3	554530*	-	-
M5	HUPX30	0,5-3,0	17,5	7,0	7,0	10,0	1,0	3,0	555520	(500)	1500
	HUPX50	3,0-5,0	19,5					3,2	555525	(500)	1200
M6	HUPX30	0,5-3,0	21,5	9,0	9,0	12,0	1,5	6,6	556470	(500)	750
	HUPX50	3,0-5,0	23,5					6,9	556475	(500)	750
M8	HUPX30	0,5-3,0	23,5	11,0	11,0	15,0	1,5	9,6	558260	-	500
	HUPX55	3,0-5,5	26,0					10,0	558280	-	500
M10	HSPX35	0,8-3,5	28,5	13,0	13,0	17,0	1,5	16,0	550635	(100)	250
	HSPX60	3,5-6,0	31,0					17,0	550636*	-	300
M12	HUPX70	3,0-7,0	38,0	16,0	16,0	23,0	2,0	31,5	552680*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





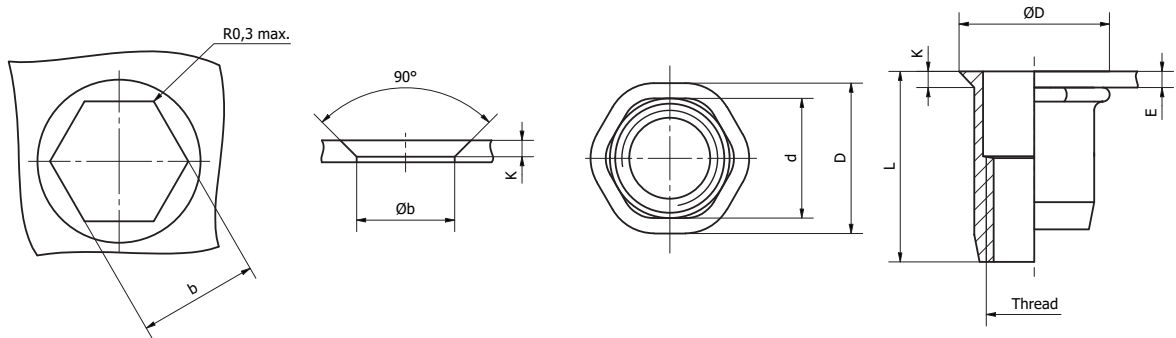
Stainless Steel 316

(contains > 2% Molybden)

Semi-hexagonal shank
Countersunk head
Open end

HUFO

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M6	HUFO45	1,5-4,5	17,0	9,0	9,0	12,1	1,5	4,2	556914*	-	-
M8	HUFO45	1,5-4,5	17,5	11,0	11,0	13,8	1,5	5,6	558908*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





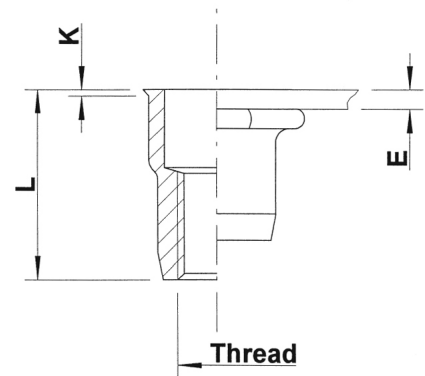
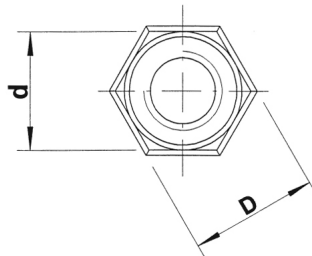
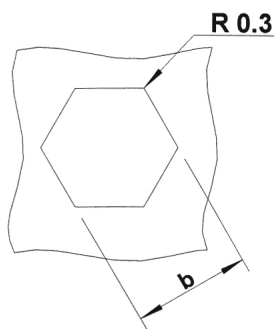
Stainless Steel 316

(contains > 2% Molybden)

Semi-hexagonal shank
Low profile head
Open end

HUKO / HSKO

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUKO20	0,5-2,0	11,0	6,0	6,0	6,5	0,5	1,2	554600	(500)	3000
	HUKO30	2,0-3,0						1,3	554909*	-	-
M5	HUKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	555600	(500)	5000
	HUKO50	3,0-5,0	14,0					1,7	555605	-	2000
M6	HUKO30	0,5-3,0	14,5	9,0	9,0	9,7	0,5	3,3	556500	(500)	1000
	HUKO50	3,0-5,0	16,5					3,6	556525	-	1000
	HUKO70	5,0-7,0	18,5					3,9	556580*	-	-
M8	HUKO30	0,5-3,0	16,0	11,0	11,0	11,8	0,5	4,9	558300	500	2000
	HUKO55	3,0-5,5	18,5					5,3	558305	-	750
	HUKO80	5,5-8,0	21,0					5,7	558310*	-	-
M10	HSKO35	0,8-3,5	21,0	13,0	13,0	13,8	0,7	8,4	550640	(100)	1000
	HSKO60	3,5-6,0	23,5					9,4	550645	(100)	300
M12	HUKO70	4,0-7,0	29,4	16,0	16,0	17,5	1,1	17,0	552840*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'





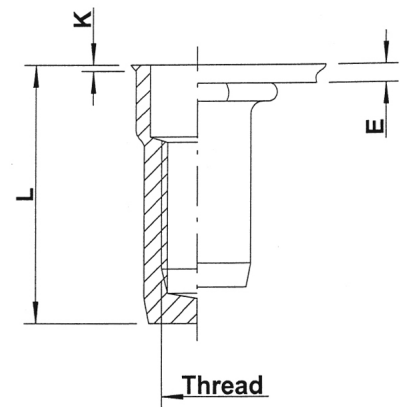
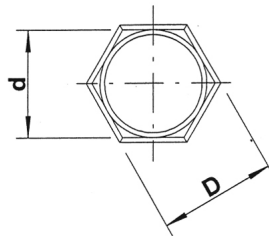
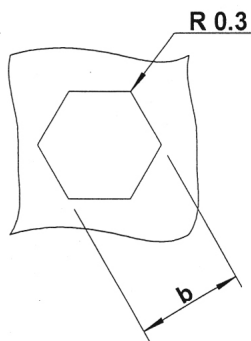
Stainless Steel 316

(contains > 2% Molybden)

Semi-hexagonal shank
Low profile head
Closed end

HUKX / HSKX

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUKX20	0,5-2,0	15,5	6,0	6,0	6,5	0,5	1,8	554620	(500)	2500
	HUKX30	2,0-3,0	16,5					1,9	554640*	-	2000
M5	HUKX30	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,7	555620	(500)	2000
	HUKX50	3,0-5,0	20,5					3,0	555640	(500)	1500
M6	HUKX30	0,5-3,0	21,5	9,0	9,0	9,7	0,5	5,7	556540	(500)	1000
	HUKX50	3,0-5,0	23,5					6,1	556565	(500)	750
	HUKX70	5,0-7,0	25,5					6,5	556590*	-	-
M8	HUKX30	0,5-3,0	24,0	11,0	11,0	11,8	0,5	8,7	558320	-	500
	HUKX55	3,0-5,5	26,5					9,1	558340	-	500
	HUKX80	5,5-8,0	29,0					9,5	558350*	-	-
M10	HSKX35	0,8-3,5	29,5	13,0	13,0	13,8	0,7	14,2	550660	(100)	350
	HSKX60	3,5-6,0	32,0					15,2	550670	(100)	250
M12	HUKX70	4,0-7,0	39,0	16,0	16,0	17,5	1,1	28,7	552880	(100)	150

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'



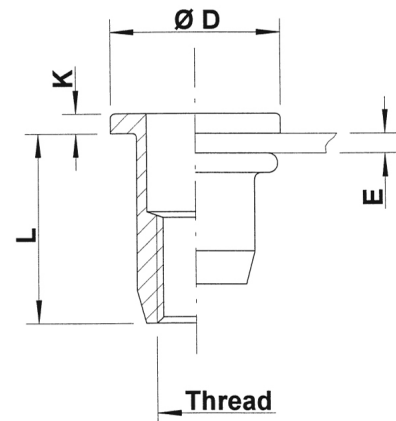
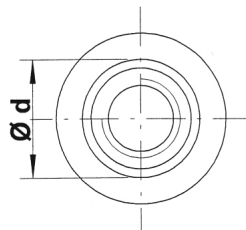
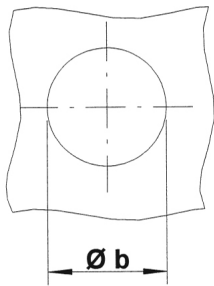


Steel

Round shank
Flat head
Open end

Zinktop 480h, Cr^{VI} - free

UPO / SPO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M3	UPO20	0,5-2,0	9,75	5,0	5,0	8,0	0,75	1,0	523029	2000	10000
	UPO30	2,0-3,0	10,75					1,1	523049	(2000)	10000
M4	UPO30	0,5-3,0	10,75	6,0	6,0	10,0	0,75	1,5	524029	2000	5000
	UPO45	3,0-4,5	12,25					1,6	524049	(2000)	5000
M5	UPO30	0,5-3,0	12,0	7,0	7,0	11,0	1,0	2,1	525029	2000	4000
	UPO55	3,0-5,5	15,0					2,5	525049	(2000)	3000
M6	UPO30	0,5-3,0	14,5	9,0	9,0	13,0	1,5	4,3	526029	1000	2000
	UPO55	3,0-5,5	16,5					4,7	526069	(1000)	2000
	UPO80	5,5-8,0	19,0					5,0	526089	(1000)	1500
M8	UPO30	0,5-3,0	16,0	11,0	11,0	16,0	1,5	6,4	528022	500	1250
	UPO55	3,0-5,5	18,5					7,0	528069	(500)	1200
	UPO80	5,5-8,0	21,5					7,8	528089	(500)	1000
M10	UPO35	0,8-3,5	19,75	12,45	12,4	18,5	2,25	9,8	520029	(400)	750
	UPO60	3,5-6,0	22,75					10,8	520049	(400)	700
M10	SPO35	0,8-3,5	21,0	13,0	13,0	19,0	2,0	11,4	520609	(400)	600
	SPO60	3,5-6,0	24,0					12,1	520629	(400)	500
	SPO85	6,0-8,5	27,0					13,0	520932	(400)	500
M12	UPO40	1,0-4,0	25,0	16,0	16,0	23,0	2,0	19,6	522029	(200)	400
	UPO70	3,0-7,0	28,0					21,1	522059	(200)	300

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'



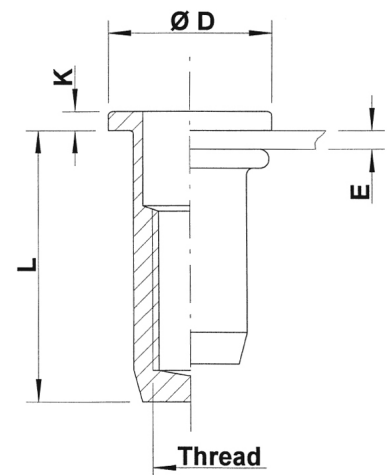
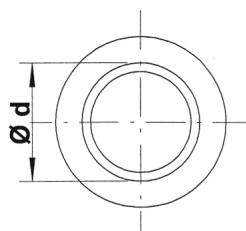
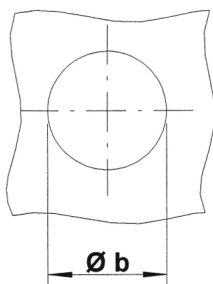


Steel

Round shank
Flat head
Closed end

Zinktop 480h, Cr^{VI} - free

UPX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPX30	0,5-3,0	14,75	6,0	6,0	10,0	0,75	2,1	524189	(2000)	5000
	UPX45	3,0-4,5	16,25					2,1	524229*	-	4000
M5	UPX30	0,5-3,0	18,0	7,0	7,0	11,0	1,0	3,4	525169	(2000)	2500
	UPX55	3,0-5,5	20,5					3,6	525189	(2000)	2500
M6	UPX30	0,5-3,0	21,5	9,0	9,0	13,0	1,5	6,8	526169	(1000)	1500
	UPX55	3,0-5,5	24,5					7,1	526209	(1000)	1250
	UPX80	5,5-8,0	27,0					7,4	526239	-	1000
M8	UPX30	0,5-3,0	22,5	11,0	11,0	16,0	1,5	10,1	528189	(500)	1000
	UPX55	3,0-5,5	25,5					10,9	528209	(500)	750
	UPX80	5,5-8,0	28,0					11,5	528239	-	700
M10	UPX35	0,8-3,5	27,5	12,45	12,4	18,5	2,25	14,5	520139	-	500
	UPX60	3,5-6,0	30,5					15,5	520159*	-	500
M12	UPX40	1,0-4,0	35,0	16,0	16,0	23,0	2,0	28,5	522189*	-	300
	UPX70	3,0-7,0	38,0					30,0	522209	-	200

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



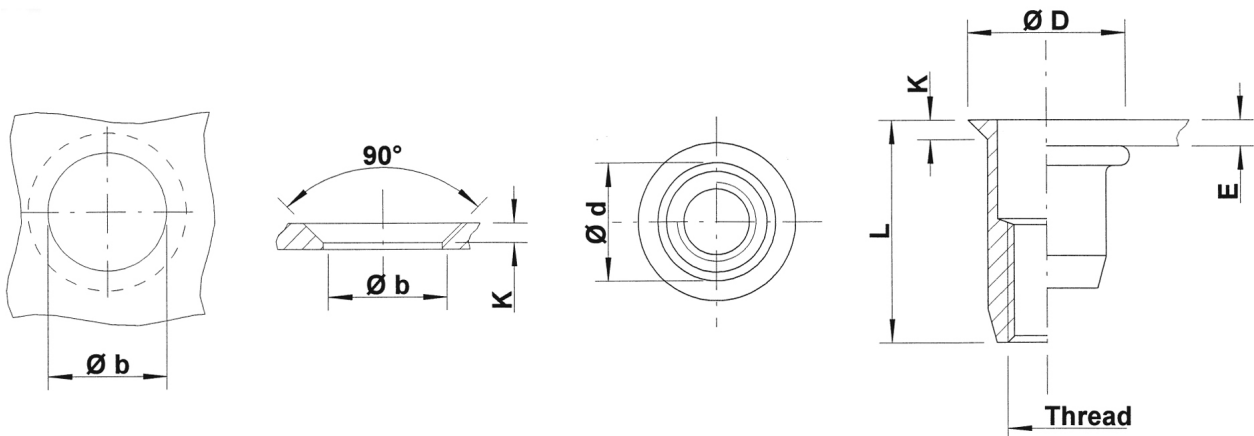


Steel

Round shank
Countersunk head
Open end

Zinktop 480h, Cr^{VI} - free

UFO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M3	UFO35	1,7-3,5	11,25	5,0	5,0	8,0	1,5	1,1	523209	(2000)	10000
M4	UFO35	1,7-3,5	11,5	6,0	6,0	9,0	1,5	1,3	524309	2000	7500
	UFO50	3,5-5,0	13,0					1,5	524329	(2000)	5000
M5	UFO40	1,7-4,0	13,0	7,0	7,0	10,0	1,5	2,0	525269	2000	5000
	UFO65	4,0-6,5	16,0					2,3	525289	(2000)	4000
M6	UFO45	1,7-4,5	17,0	9,0	9,0	12,0	1,5	4,2	526309	1000	2000
	UFO65	4,5-6,5	19,0					4,7	526329	(1000)	2000
M8	UFO45	1,7-4,5	19,0	11,0	11,0	14,0	1,5	6,3	528269	500	1250
	UFO65	4,5-6,5	21,0					7,0	528289	(500)	1250
M10	UFO45	1,7-4,5	21,0	12,45	12,4	15,4	1,5	7,6	520229	(400)	1000
	UFO65	4,5-6,5	23,0					8,2	520249	(400)	750
M12	UFO45	2,0-4,5	26,0	16,0	16,0	19,0	1,8	16,9	522269	(200)	500
	UFO75	4,5-7,5	29,0					18,0	522289	(200)	400

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'



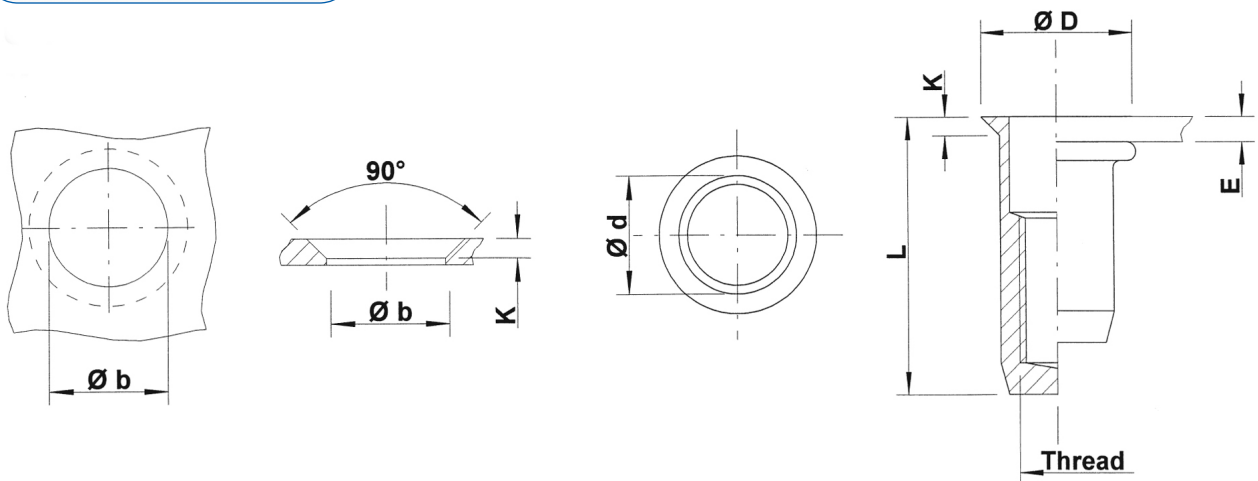


Steel

Round shank
Countersunk head
Closed end

Zinktop 480h, Cr^{VI} - free

UFX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFX35	1,7-3,5	15,5	6,0	6,0	9,0	1,5	2,0	524449	(2000)	5000
	UFX50	3,5-5,0	17,0	6,0	6,0	9,0	1,5	2,2	524469*	-	5000
M5	UFX40	1,7-4,0	18,0	7,0	7,0	10,0	1,5	3,0	525389	(2000)	3000
	UFX65	4,0-6,5	20,5	7,0	7,0	10,0	1,5	3,4	525409*	-	3000
M6	UFX45	1,7-4,5	22,0	9,0	9,0	12,0	1,5	6,1	526409	(1000)	1500
	UFX65	4,5-6,5	24,0	9,0	9,0	12,0	1,5	6,5	526429*	-	1500
	UFX90	6,5-9,0	26,5	9,0	9,0	12,0	1,5	6,9	526459*	-	1250
M8	UFX45	1,7-4,5	25,0	11,0	11,0	14,0	1,5	9,2	528369	(500)	1000
	UFX65	4,5-6,5	28,0	11,0	11,0	14,0	1,5	10,1	528389*	-	750
M10	UFX45	1,7-4,5	29,5	12,45	12,4	15,4	1,5	12,3	520269*	-	500

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



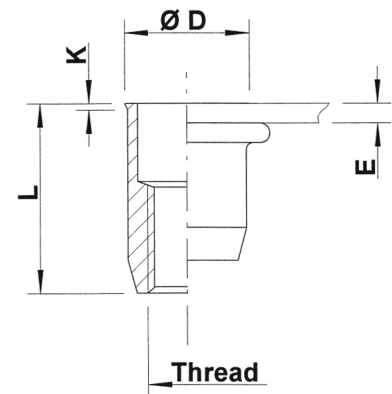
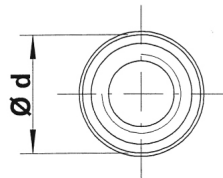
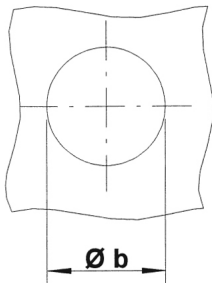


Steel

Round shank
Low profile head
Open end

Zinktop 480h, Cr^{VI} - free

UKO / SKO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKO30	0,5-3,0	10,75	6,0	6,0	6,5	0,5	1,1	524529	2000	10000
	UKO50	3,0-5,0	12,75					1,2	524539	(2000)	7500
M5	UKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,6	525469	2000	5000
	UKO55	3,0-5,5	15,0					1,8	525489	(2000)	4000
M6	UKO30	0,5-3,0	14,5	9,0	9,0	9,5	0,5	3,4	526469	1000	3000
	UKO55	3,0-5,5	16,5					3,7	526489	(1000)	2500
M8	UKO30	0,5-3,0	16,0	11,0	11,0	11,5	0,5	5,0	528449	500	2000
	UKO55	3,0-5,5	18,5					5,5	528459	(500)	1500
M10	UKO35	0,8-3,5	19,5	12,45	12,4	12,9	0,5	6,7	520459	400	1250
M10	SKO35	0,8-3,5	22,0	13,0	13,0	13,5	0,5	9,3	520849*	-	750
M12	UKO70	3,0-7,0	29,0	16,0	16,0	17,5	1,0	18,0	522469	-	400

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

* **Non-stock item:** minimum order quantity required after depletion of stock



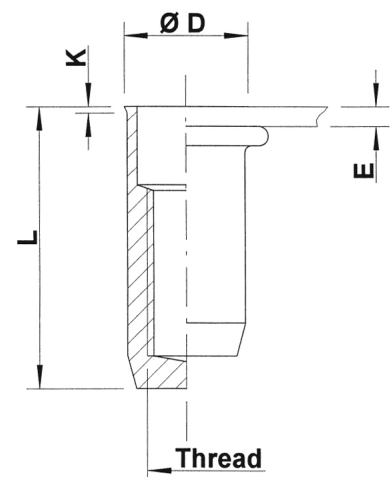
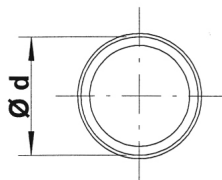
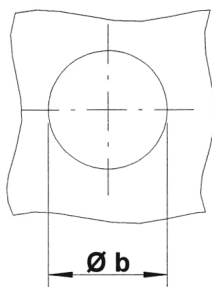


Steel

Round shank
Low profile head
Closed end

Zinktop 480h, Cr^{VI} - free

UKX / SKX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKX30	0,5-3,0	15,0	6,0	6,0	6,5	0,5	1,8	524579	(2000)	5000
M5	UKX30	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,8	525559	(2000)	4000
M6	UKX30	0,5-3,0	21,5	9,0	9,0	9,5	0,5	5,8	526519	(1000)	2000
M8	UKX30	0,5-3,0	22,5	11,0	11,0	11,5	0,5	8,3	528479	(500)	1250
M10	UKX35	0,8-3,5	28,0	12,45	12,4	12,9	0,5	11,4	520469*	-	-
M10	SKX60	3,5-6,0	32,0	13,0	13,0	13,5	0,5	15,0	520479*	-	500

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





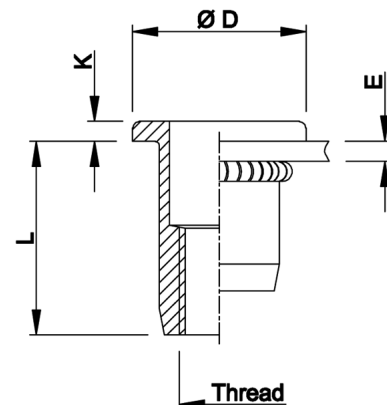
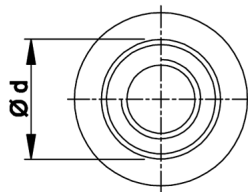
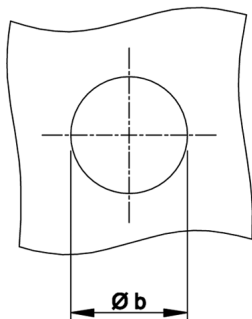
Steel

Knurled shank
Flat head
Open end

Zinktop 480h, Cr^{VI} - free

UPO KN / SPO KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPO30 KN	0,5-3,0	10,75	6,0	6,0	10,0	0,75	1,5	5240297	(1000)	5000
	UPO45 KN	3,0-4,5	12,25					1,6	5240497*	-	5000
M5	UPO30 KN	0,5-3,0	12,0	7,0	7,0	11,0	1,0	2,1	5250297	(1000)	4000
	UPO55 KN	3,0-5,5	15,0					2,5	5250497*	-	3000
M6	UPO30 KN	0,5-3,0	14,5	9,0	9,0	13,0	1,5	4,3	5260297	(1000)	2000
	UPO55 KN	3,0-5,5	16,5					4,7	5260697*	-	2000
M8	UPO30 KN	0,5-3,0	16,0	11,0	11,0	16,0	1,5	6,4	5280227	(500)	1250
	UPO55 KN	3,0-5,5	18,5					7,0	5280697*	-	1200
M10	SPO35 KN	0,8-3,5	21,0	13,0	13,0	19,0	2,0	11,4	5206097*	-	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





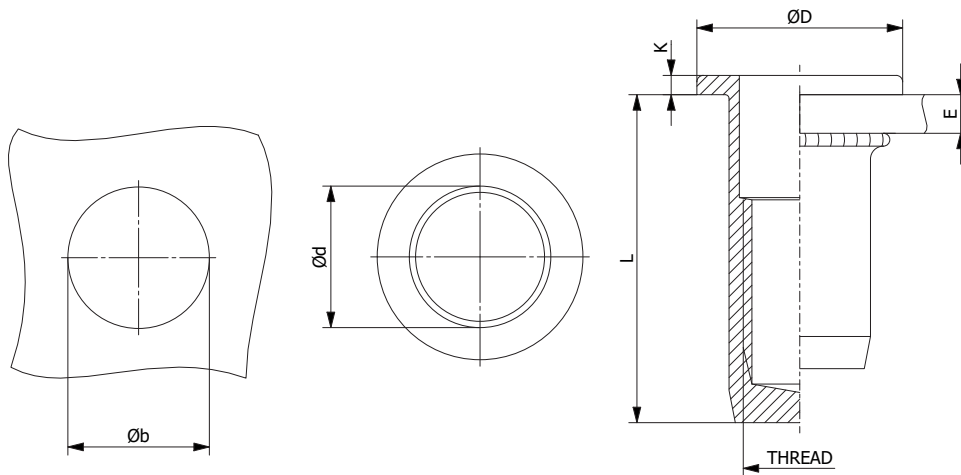
Steel

Knurled shank
Flat head
Closed end

Zinktop 480h, Cr^{VI} - free

UPX KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPX45 KN	3,0-4,5	16,25	6,0	6,0	10,0	0,75	2,1	5242297*	-	3500
M5	UPX30 KN	0,5-3,0	18,0	7,0	7,0	11,0	1,0	3,4	5251697*	-	2500
	UPX55 KN	3,0-5,5	20,5					3,6	5251897*	-	2500
M6	UPX30 KN	0,5-3,0	21,5					6,8	5261697*	-	1000
	UPX55 KN	3,0-5,5	24,5	9,0	9,0	13,0	1,5	7,1	5262097*	-	1200
	UPX80 KN	5,5-8,0	27,0					7,4	5262397*	-	1000
M8	UPX30 KN	0,5-3,0	22,5	11,0	11,0	16,0	1,5	10,1	5281897*	-	1000
	UPX55 KN	3,0-5,5	25,5					10,9	5282097*	-	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





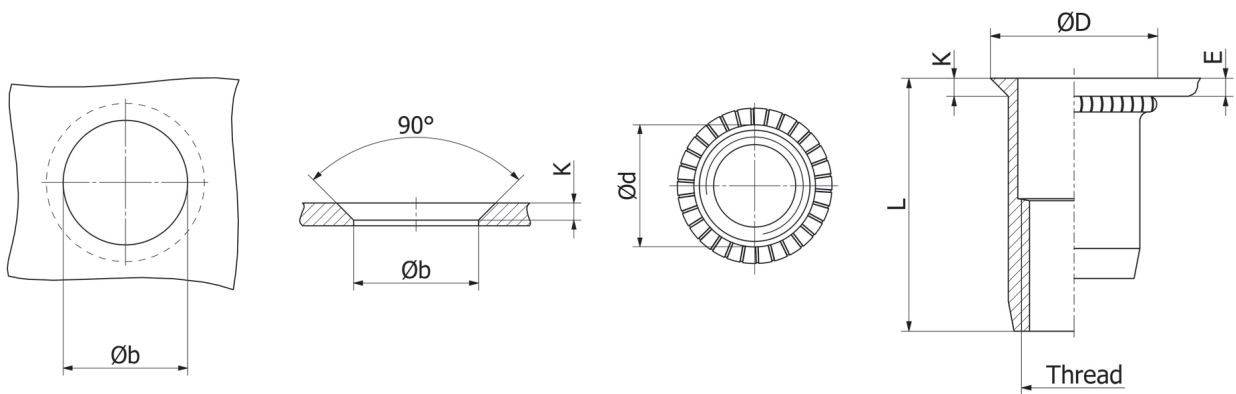
Steel

Knurled shank
Countersunk head with knurl
Open end

Zinktop 480h, Cr^{VI} - free

UFO KN / SFO KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFO35 KN	1,7-3,5	11,5	6,0	6,0	9,0	1,5	1,3	5243097*	-	7500
M5	UFO40 KN	1,7-4,0	13,0	7,0	7,0	10,0	1,5	2,0	5252697*	-	5000
M6	UFO45 KN	1,7-4,5	17,0	9,0	9,0	12,0	1,5	4,2	5263097*	-	2000
M8	UFO45 KN	1,7-4,5	19,0	11,0	11,0	14,0	1,5	6,3	5282697*	-	1250
M10	SFO45 KN	1,7-4,5	21,0	13,0	13,0	16,0	1,5	10,0	5202297*	-	-

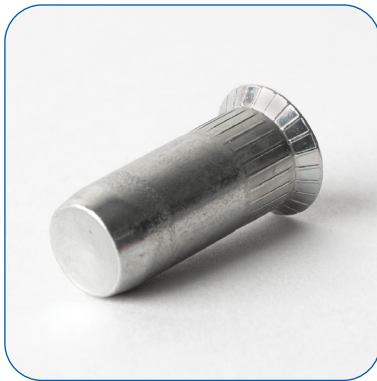
Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'





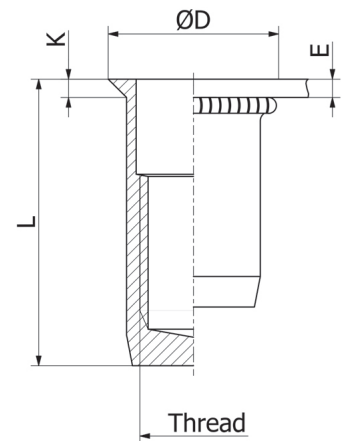
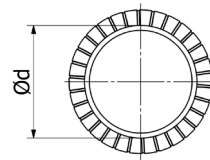
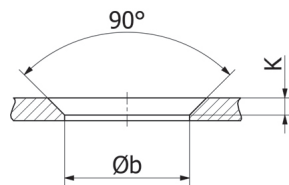
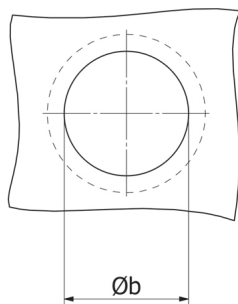
Steel

Knurled shank
Countersunk head with knurl
Closed end

Zinctop 480h, Cr^{VI} - free

UFX KN / SFX KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFX35 KN	1,7-3,5	15,5	6,0	6,0	9,0	1,5	2,0	5244497*	-	5000
M5	UFX40 KN	1,7-4,0	18,0	7,0	7,0	10,0	1,5	3,0	5253897*	-	3000
M6	UFX45 KN	1,7-4,5	22,0	9,0	9,0	12,0	1,5	6,1	5264097*	-	1200
M8	UFX45 KN	1,7-4,5	25,0	11,0	11,0	14,0	1,5	9,2	5283697*	-	1000
M10	SFX45 KN	1,7-4,5	29,5	13,0	13,0	16,0	1,5	15,7	5208197*	-	500

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'





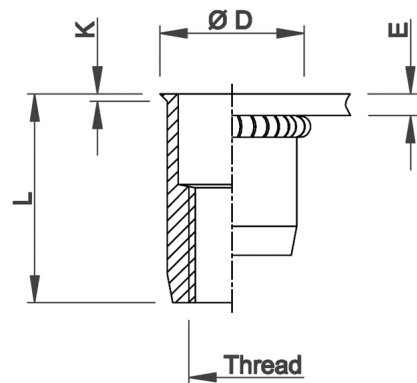
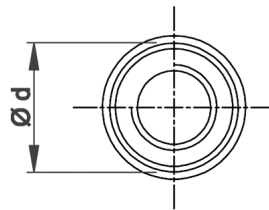
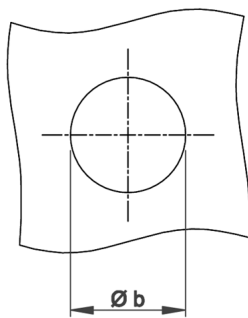
Steel

Knurled shank
Low profile head
Open end

Zinktop 480h, Cr^{VI} - free

UKO KN / SKO KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKO30 KN	0,5-3,0	10,75	6,0	6,0	6,5	0,5	1,1	5245297	(2000)	10000
	UKO50 KN	3,0-5,0	12,75					1,2	5245397*	-	7500
M5	UKO30 KN	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,6	5254697	(2000)	5000
	UKO55 KN	3,0-5,5	15,0					1,8	5254897*	-	4000
M6	UKO30 KN	0,5-3,0	14,5	9,0	9,0	9,5	0,5	3,4	5264697	(1000)	3000
	UKO55 KN	3,0-5,5	16,5					3,7	5264897*	-	2500
M8	UKO30 KN	0,5-3,0	16,0	11,0	11,0	11,5	0,5	5,0	5284497	(500)	2000
	UKO55 KN	3,0-5,5	18,5					5,5	5284597*	-	1500
M10	SKO35 KN	0,8-3,5	19,5	13,0	13,0	13,5	0,5	9,2	5208497*	-	1000
	SKO60 KN	3,0-6,0	23,0					9,3	5208597*	-	1000

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'





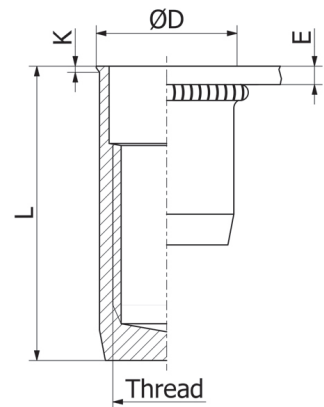
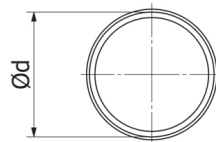
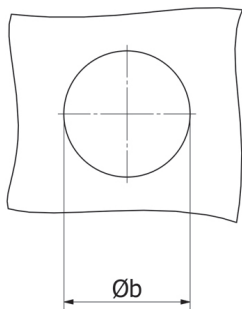
Steel

Knurled shank
Low profile head
Closed end

Zinktop 480h, Cr^{VI} - free

UKX KN

improved
nominal knurl



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M5	UKX30 KN	0,5-3,0	18,0	7,0	7,0	7,5	0,5	2,8	5255597*	-	4000
	UKX55 KN	3,0-5,5	20,5					3,0	5255297*	-	3000
M6	UKX30 KN	0,5-3,0	21,5	9,0	9,0	9,5	0,5	5,8	5265197*	-	2000
	UKX55 KN	3,0-5,5	24,0					6,0	5265097*	-	1500
M8	UKX30 KN	0,5-3,0	22,5	11,0	11,0	11,5	0,5	8,3	5284797*	-	1250
	UKX55 KN	3,0-5,5	25,0					8,7	5284697*	-	1000

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

KN programme in progress

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



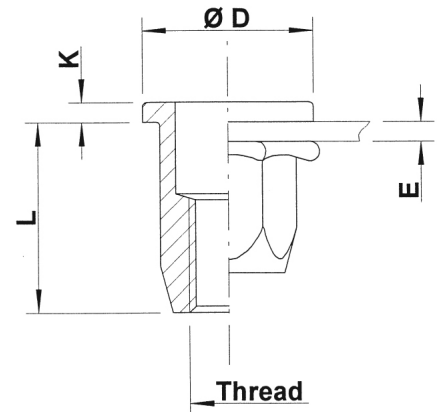
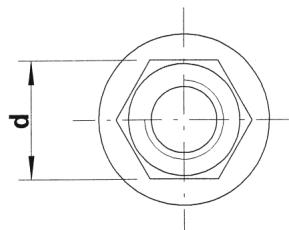
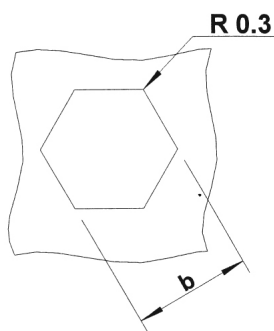


Steel

Full-hexagonal shank⁽¹⁾
Flat head
Open end

Zinktop 480h, Cr^{VI}- free

HUPO / HSPO



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUPO20	0,5-2,0	10,0	6,0	6,0	9,0	1,0	1,4	524589	2000	7000
M5	HUPO30	0,5-3,0	13,0	7,0	7,0	10,0	1,0	2,3	525569	(2000)	4000
	HUPO55	3,0-5,5	15,5					2,4	525579	-	3000
M6	HUPO30	0,5-3,0	14,5	9,0	9,0	13,0	1,5	4,7	526529	1000	2000
	HUPO55	3,0-5,5	16,5					4,8	526549	(1000)	1750
M8	HUPO30	0,5-3,0	16,5	11,0	11,0	16,0	1,5	7,0	528482	(500)	1200
	HUPO55	3,0-5,5	19,0					7,5	528509	(500)	1000
	HUPO80	5,5-8,0	22,0					8,1	528609	(500)	750
M10	HSPO35	0,8-3,5	21,0	13,0	13,0	19,0	2,0	11,6	520649	(400)	600
	HSPO60	3,5-6,0	23,5					12,3	520659	(400)	500
M12	HUPO40	1,0-4,0	25,0	16,0	16,0	23,0	2,0	19,6	522509	(200)	350
	HUPO70	3,0-7,0	30,0						522519	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

⁽¹⁾ Except M12: semi-hexagonal shank

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'
Semi-hexagonal programme available on demand



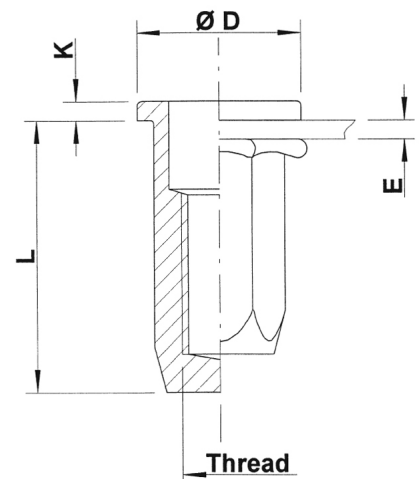
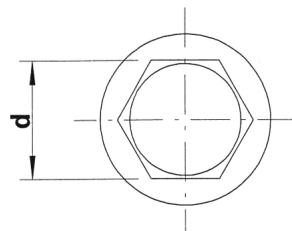
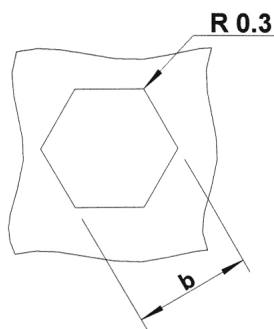


Steel

Full-hexagonal shank⁽¹⁾
Flat head
Closed end

Zintop 480h, Cr^{VI} - free

HUPX / HSPX



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUPX20	0,5-2,0	14,5	6,0	6,0	9,0	1,0	2,2	524609	(1000)	5000
M5	HUPX30	0,5-3,0	19,0	7,0	7,0	10,0	1,0	3,6	525589	(1000)	2500
	HUPX55	3,0-5,5	21,5					3,9	525599	(1000)	2000
M6	HUPX30	0,5-3,0	21,5	9,0	9,0	13,0	1,5	7,4	526569	(500)	1250
	HUPX55	3,0-5,5	23,5					7,6	526579	(500)	1250
M8	HUPX30	0,5-3,0	24,5					11,6	528529	(500)	750
	HUPX55	3,0-5,5	27,0	11,0	11,0	16,0	1,5	12,2	528539	(500)	700
	HUPX80	5,5-8,0	29,5					13,1	528639*		
M10	HSPX35	0,8-3,5	31,0	13,0	13,0	19,0	2,0	19,0	520654	-	400
	HSPX60	3,5-6,0	33,5					19,4	520658	-	400
M12	HUPX40	1,0-4,0	35,0	16,0	16,0	23,0	2,0	30,4	522529*	-	200
	HUPX70	4,0-7,0	38,0					33,2	522539*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

⁽¹⁾ Except M12: semi-hexagonal shank

* Non-stock item: minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

Semi-hexagonal programme available on demand



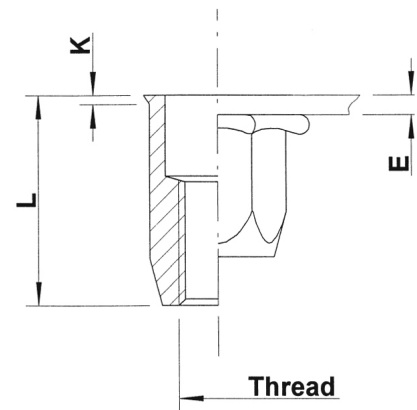
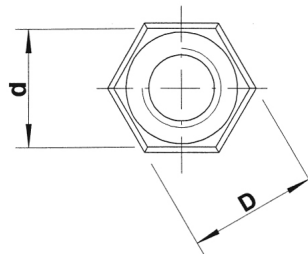
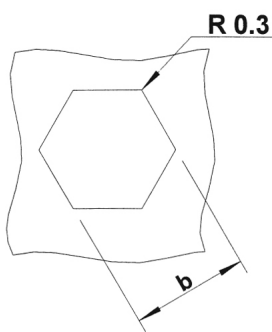


Steel

Full-hexagonal shank
Low profile head
Open end

Zinktop 480h, Cr^{VI}- free

HUKO / HSKO



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUKO20	0,5-2,0	11,0	6,0	6,0	6,6	0,6	1,2	524629	2000	7500
M5	HUKO30	0,5-3,0	14,0	7,0	7,0	7,7	0,6	2,0	525609	2000	5000
	HUKO55	3,0-5,5	16,5					2,3	525629	(2000)	4000
M6	HUKO30	0,5-3,0	16,0	9,0	9,0	9,8	0,7	4,2	526589	1000	2500
	HUKO55	3,0-5,5	18,5					4,6	526609	(1000)	2000
M8	HUKO30	0,5-3,0	18,0					6,2	528549	500	1250
	HUKO55	3,0-5,5	20,5	11,0	11,0	11,8	0,7	6,9	528569	(500)	1250
	HUKO80	5,5-8,0	23,0					7,6	528579*	-	1000
M10	HSKO35	0,8-3,5	23,0	13,0	13,0	13,8	0,7	10,5	520669	(400)	750
	HSKO60	3,5-6,0	25,5					11,0	520679	(400)	700
M12	HUKO40	1,0-4,0	25,5	16,0	16,0	17,5	1,1	18,0	522549	-	350
	HUKO70	4,0-7,0	28,0						522569*	-	300

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

Semi-hexagonal programme available on demand

¹⁾ Except M12: semi-hexagonal shank



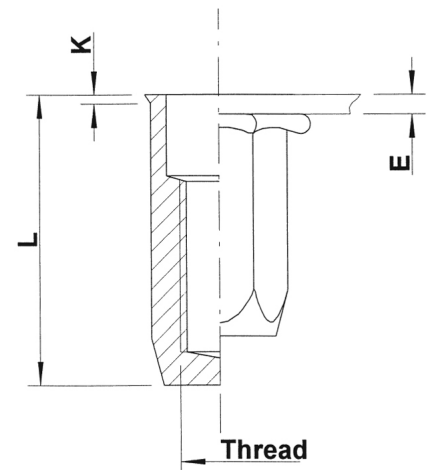
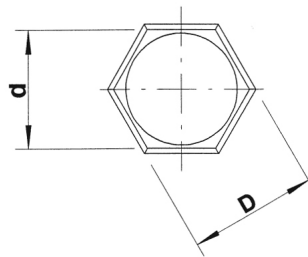
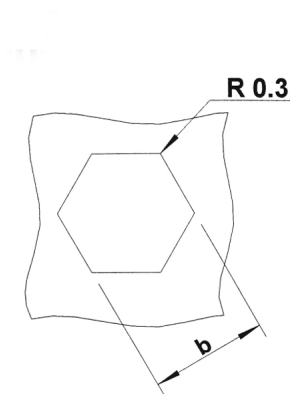


Steel

Full-hexagonal shank
Low profile head
Closed end

Zinktop 480h, Cr^{VI} - free

HUKX / HSKX



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HUKX20	0,5-2,0	15,5	6,0	6,0	6,6	0,6	2,0	524649	2000	5000
M5	HUKX30	0,5-3,0	20,0	7,0	7,0	7,7	0,6	3,3	525649	2000	3000
	HUKX55	3,0-5,5	22,5					3,6	525659	-	2000
M6	HUKX30	0,5-3,0	22,0	9,0	9,0	9,8	0,7	6,6	526629	1000	1750
	HUKX55	3,0-5,5	24,5					6,9	526639	(1000)	1250
M8	HUKX30	0,5-3,0	25,0	11,0	11,0	11,8	0,7	10,5	528589	(500)	1000
	HUKX55	3,0-5,5	27,5					10,7	528590	(500)	750
M10	HSKX35	0,8-3,5	32,0	13,0	13,0	13,8	0,7	18,9	520645	-	400
	HSKX60	3,5-6,0	34,5					20,4	520646	-	450
M12	HUKX70	4,0-7,0	39,0	16,0	16,0	17,5	1,1	30,1	522629*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

Semi-hexagonal programme available on demand

⁽¹⁾ Except M12: semi-hexagonal shank



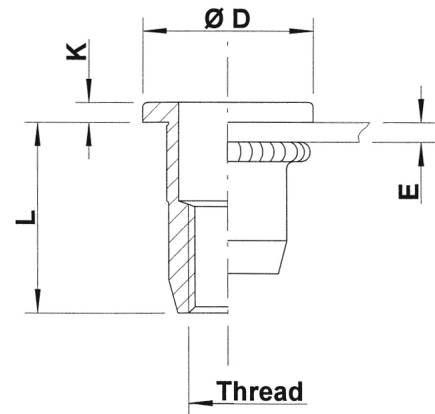
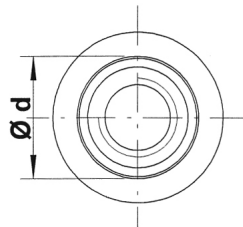
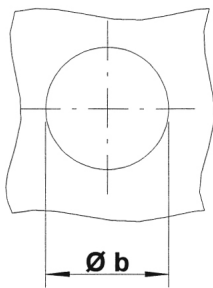


Steel

Splined shank
Flat head
Open end

Zinktop 480h, Cr^{VI} - free

UPO RS



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = splined shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UPO30 RS	0,5-3,0	10,75	6,4	6,3	10,0	0,75	1,5	524709	2000	5000
	UPO45 RS	3,0-4,5	12,25					1,6	524729*	-	5000
M5	UPO30 RS	0,5-3,0	12,0	7,4	7,3	11,0	1,0	2,2	525709	(2000)	4000
	UPO55 RS	3,0-5,5	15,0					2,6	525729	(2000)	3000
M6	UPO30 RS	0,5-3,0	14,5	9,4	9,3	13,0	1,5	4,4	526709	(1000)	2000
	UPO55 RS	3,0-5,5	16,5					4,7	526729	(1000)	2000
M8	UPO30 RS	0,5-3,0	16,0	11,5	11,4	16,0	1,5	6,5	528709	(500)	1250
	UPO55 RS	3,0-5,5	18,5					7,1	528729	(500)	1200
M10	UPO35 RS	0,8-3,5	19,75	13,0	12,9	18,5	2,25	10,0	520709	(400)	750
	UPO60 RS	3,5-6,0	22,75					10,8	520729	(400)	700

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'



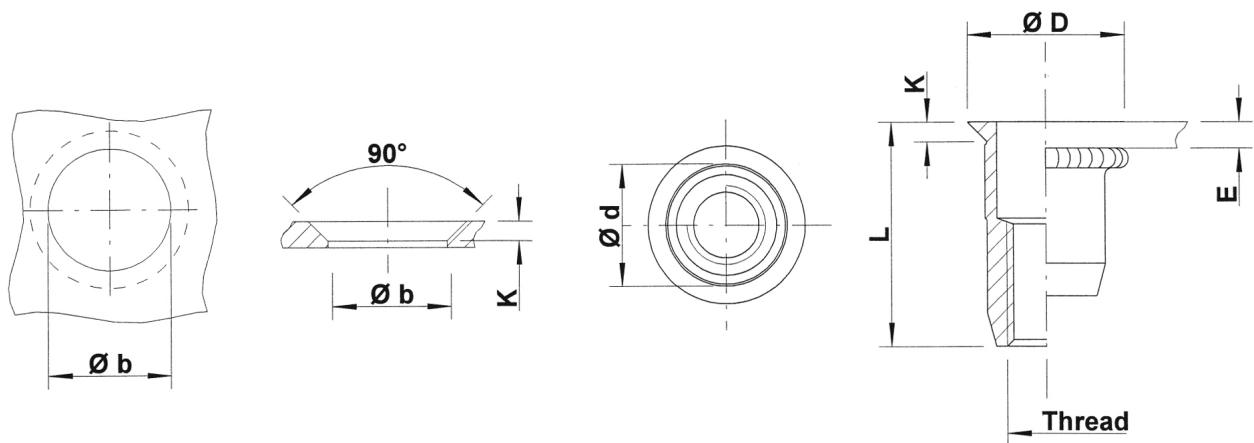


Steel

Splined shank
Countersunk head
Open end

Zinktop 480h, Cr^{VI} - free

UFO RS



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = splined shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFO35 RS	1,7-3,5	11,5	6,4	6,3	9,0	1,5	1,4	524749	(2000)	7500
	UFO50 RS	3,5-5,0	13,0					1,5	524769*	-	5000
M5	UFO40 RS	1,7-4,0	13,0	7,4	7,3	10,0	1,5	2,1	525749	(2000)	5000
	UFO65 RS	4,0-6,5	16,0					2,4	525769*	-	4000
M6	UFO45 RS	1,7-4,5	17,0	9,4	9,3	12,0	1,5	4,4	526769	(1000)	2000
	UFO65 RS	4,5-6,5	19,0					4,7	526789	(1000)	2000
M8	UFO45 RS	1,7-4,5	19,0	11,5	11,4	14,0	1,5	6,4	528749	(500)	1250
	UFO65 RS	4,5-6,5	21,0					6,8	528769	(500)	1250
M10	UFO45 RS	1,7-4,5	21,0	13,0	12,9	15,4	1,5	7,9	520749	(400)	750
	UFO65 RS	4,5-6,5	23,0					8,5	520769	(400)	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

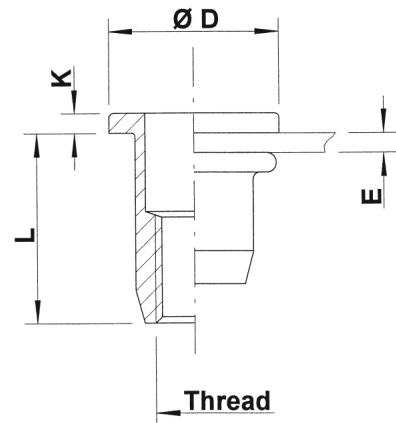
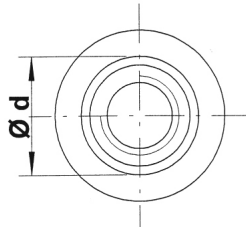
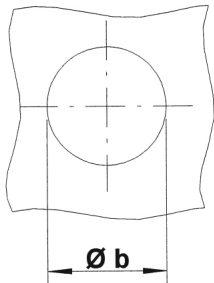
Tolerances and characteristics see chapter 'Technical Information'





Aluminium

Round shank
Flat head
Open end
UPO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M3	UPO20	0,5-2,0	9,75	5,0	5,0	8,0	0,75	0,4	513050	(2000)	10000
	UPO30	2,0-3,0	10,75					0,4	513100	(2000)	10000
M4	UPO30	0,5-3,0	10,75	6,0	6,0	10,0	0,75	0,5	514025	2000	5000
	UPO45	3,0-4,5	12,25					0,5	514050	(2000)	5000
M5	UPO30	0,5-3,0	12,0	7,0	7,0	11,0	1,0	0,7	515025	(2000)	4000
	UPO55	3,0-5,5	15,0					0,8	515050	(2000)	3000
M6	UPO30	0,5-3,0	14,5	9,0	9,0	13,0	1,5	1,5	516025	(1000)	2000
	UPO55	3,0-5,5	16,5					1,6	516075	(1000)	2000
	UPO80	5,5-8,0	19,0					1,7	516090*	-	1500
M8	UPO30	0,5-3,0	16,0	11,0	11,0	16,0	1,5	2,2	518025	(500)	1250
	UPO55	3,0-5,5	18,5					2,4	518050	(500)	1250
	UPO80	5,5-8,0	21,5					2,6	518055*	-	1000
M10	UPO35	0,8-3,5	19,75	12,45	12,4	18,5	2,25	3,3	510025	(400)	750
	UPO60	3,5-6,0	22,75					3,6	510050*	-	700

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

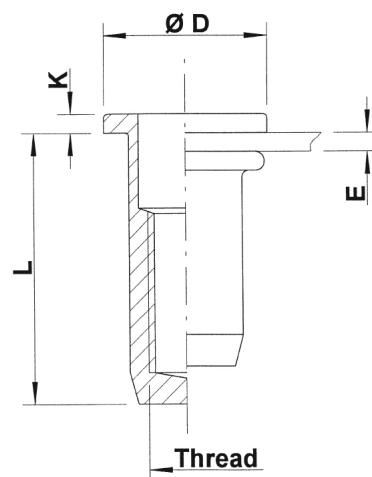
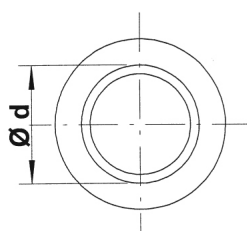
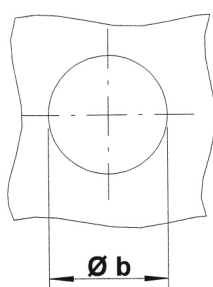




Aluminium

Round shank
Flat head
Closed end

UPX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M3	UPX20	0,5-2,0	13,25	5,0	5,0	8,0	0,75	0,5	513400*	-	7500
M4	UPX30	0,5-3,0	14,75	6,0	6,0	10,0	0,75	0,7	514200	(2000)	5000
	UPX45	3,0-4,5	16,25					0,7	514225*	-	4000
M5	UPX30	0,5-3,0	18,0	7,0	7,0	11,0	1,0	1,1	515175	(2000)	2500
	UPX55	3,0-5,5	20,5					1,2	515200*	-	2500
M6	UPX30	0,5-3,0	21,5					2,3	516175	(1000)	1500
	UPX55	3,0-5,5	24,5	9,0	9,0	13,0	1,5	2,5	516200*	-	1500
	UPX80	5,5-8,0	27,0					2,7	516225*	-	1250
M8	UPX30	0,5-3,0	22,5	11,0	11,0	16,0	1,5	3,5	518125	(500)	750
	UPX55	3,0-5,5	25,5					3,9	518150*	-	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

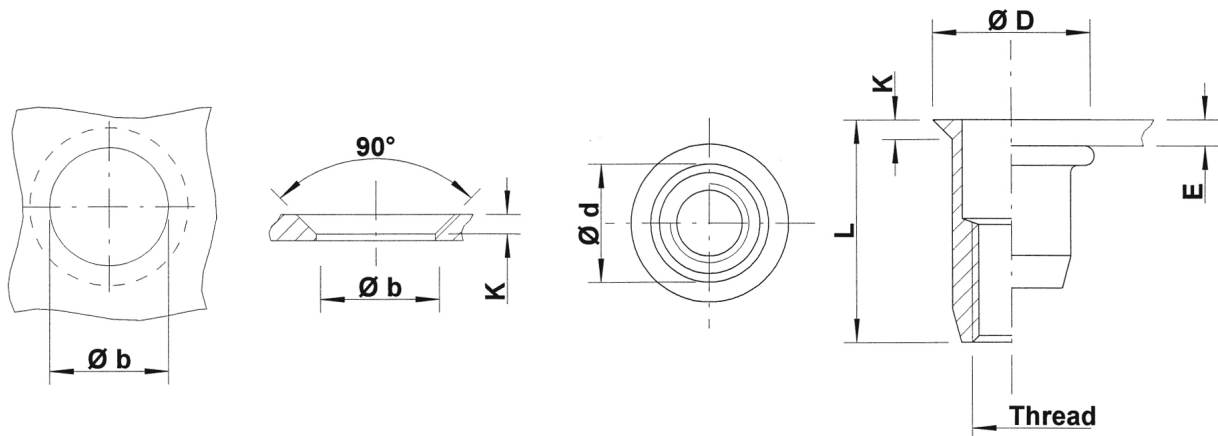




Aluminium

Round shank
Countersunk head
Open end

UFO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M3	UFO35	1,7-3,5	11,25	5,0	5,0	8,0	1,5	0,4	513550	(2000)	10000
M4	UFO35	1,7-3,5	11,5	6,0	6,0	9,0	1,5	0,5	514350	(2000)	7500
	UFO50	3,5-5,0	13,0	6,0	6,0	9,0	1,5	0,5	514375	(2000)	5000
M5	UFO40	1,7-4,0	13,0	7,0	7,0	10,0	1,5	0,7	515250	(2000)	5000
	UFO65	4,0-6,5	16,0	7,0	7,0	10,0	1,5	0,8	515275	(2000)	4000
M6	UFO45	1,7-4,5	17,0	9,0	9,0	12,0	1,5	1,5	516250	(1000)	2000
	UFO65	4,5-6,5	19,0	9,0	9,0	12,0	1,5	1,6	516275	(1000)	2000
M8	UFO45	1,7-4,5	19,0	11,0	11,0	14,0	1,5	2,1	518175	(500)	1250
	UFO65	4,5-6,5	21,0	11,0	11,0	14,0	1,5	2,2	518200	(500)	1250
M10	UFO45	1,7-4,5	21,0	12,45	12,4	15,4	1,5	2,5	510250	(500)	1000
	UFO65	4,5-6,5	23,0	12,45	12,4	15,4	1,5	2,7	510275*	(500)	1000

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

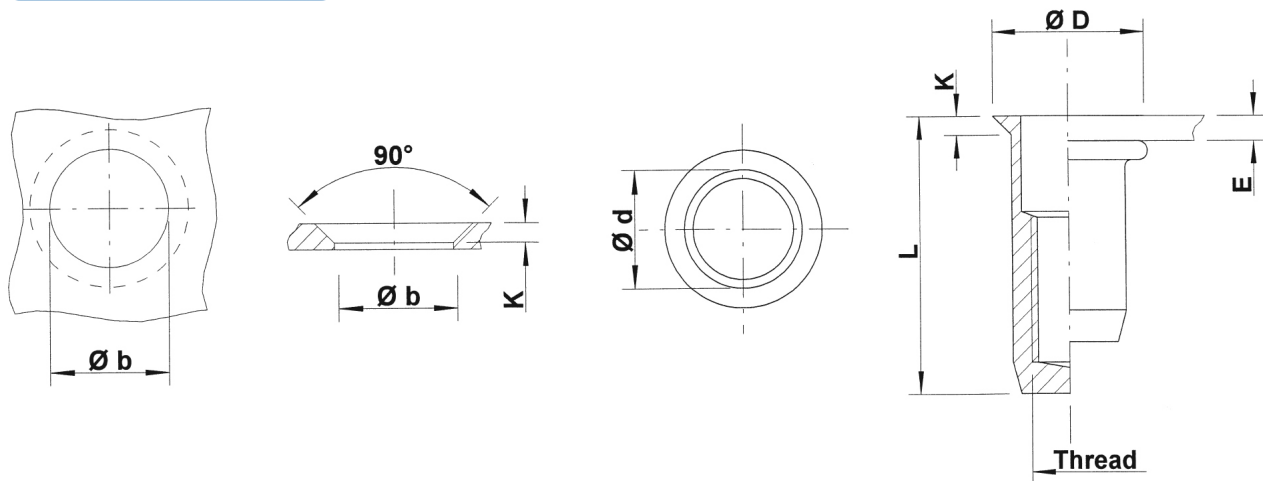




Aluminium

Round shank
Countersunk head
Closed end

UFX



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UFX35	1,7-3,5	15,5	6,0	6,0	9,0	1,5	0,7	514450	(2000)	5000
	UFX50	3,5-5,0	17,0	6,0	6,0	9,0	1,5	0,7	514475*	-	5000
M5	UFX40	1,7-4,0	18,0	7,0	7,0	10,0	1,5	1,0	515375	(2000)	3000
	UFX65	4,0-6,5	20,5	7,0	7,0	10,0	1,5	1,1	515400*	-	3000
M6	UFX45	1,7-4,5	22,0	9,0	9,0	12,0	1,5	2,1	516400	(1000)	1500
	UFX65	4,5-6,5	24,0	9,0	9,0	12,0	1,5	2,3	516425*	-	1500
M8	UFX45	1,7-4,5	25,0	11,0	11,0	14,0	1,5	3,3	518325*	-	1000
	UFX65	4,5-6,5	28,0	11,0	11,0	14,0	1,5	3,7	518350*	-	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

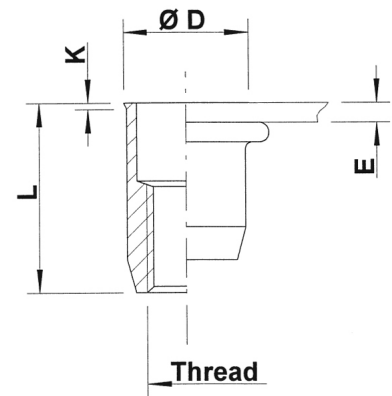
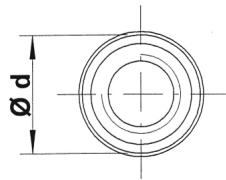
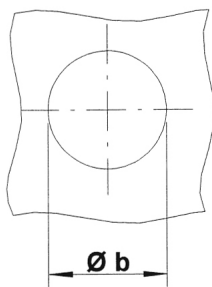




Aluminium

Round shank
Low profile head
Open end

UKO



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	UKO30	0,5-3,0	10,75	6,0	6,0	6,5	0,5	0,4	514525	(2000)	10000
M5	UKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	0,5	515500	(2000)	5000
M6	UKO30	0,5-3,0	14,5	9,0	9,0	9,5	0,5	1,2	516500	(1000)	3000
M8	UKO30	0,5-3,0	16,0	11,0	11,0	11,5	0,5	1,8	518450	(500)	2000

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'



Trusted and carefree leakproof Tubtara-sheet assemblies



● Leakproof closed-end **Tubtara®** with O-ring seal (mechanical)

- Large flanged head with a cylindrical groove and O-ring seal mounted underneath
- O-ring seal slides into the groove and is compressed between head and plate during installation
- Metal-to-metal contact after setting, therefore assuring spin out resistance
- Seal protected against UV-light influences, and positioned away from possible burrs or sharp hole edges
- Excellent protection against ingress of fluids, moisture, oil or dirt even under high pressures up to at least 10 bar ¹
- Different seal material like FPM/FKM, EPDM or Silicone (FDA 21 CFR 177.2600 and EC1935.2004 compliance) possible
- IP x8 guaranteed under Dejong test conditions

● Leakproof **Tubtara®** with pre-applied sealant under head (chemical)

- Non-reactive peripheral seal, made of flexible organic based material, applied under the head
- Seal material is gap filling, forming a robust seal between mating surfaces
- Slight variations in seal thickness may influence head height and grip range
- Seal is resistant to many automotive oils, antifreeze and transmission fluids
- Seal can be applied on stocked standard Tubtara parts (all materials and shank types)
- IP x7 guaranteed under Dejong test conditions

Seal type	Seal material	Seal colour	Head type	IP class ⁽¹⁻³⁾	Temperature range (°C) ⁽³⁾	UV shielded	Shore hardness (approx.)	Standard / on request
O-ring	NBR	black	large HX	IP x8	-30 +120 (150 peak)	YES	70 A	ST
O-ring	EPDM	black	large HX	IP x8	-50 +120	YES	70 A	OR
O-ring	FPM/FKM	black	large HX	IP x8	-20 +200 (230 peak)	YES	75 A	OR
O-ring	silicone	rust	large HX	IP x8	-60 +220	YES	70 A	OR
D1	Rimlex® 620B polyurethane resin	blue	P ⁽²⁾	IP x7	-40 +100 (150 peak)	NO	50 A	ST
D2	precote® 200 polyurethane acrylate	green	P ⁽²⁾	IP x7	-40 +100	NO	60 A	ST
D3	Rimlex® 310 silicone	red	P ⁽²⁾	IP x7	-50 +300	NO	43 A	OR
D4	precote® 5 acrylate	light blue	K, F, P ⁽²⁾	IP x7	-60 +160	NO	N.A.	ST
D6	precote® 15	white	K, F, P ⁽²⁾	IP x7	-60 +200	NO	N.A.	OR

⁽¹⁾ according to Dejong test conditions. Depending on correct hole preparation and installation.

⁽²⁾ P = flat head, F = countersunk head, K = low profile head. Subject to tests.

⁽³⁾ Subject to testing in actual application





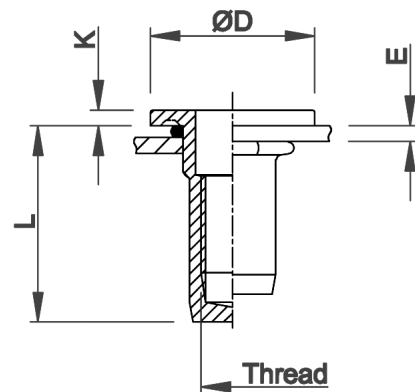
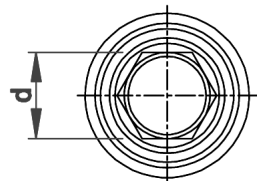
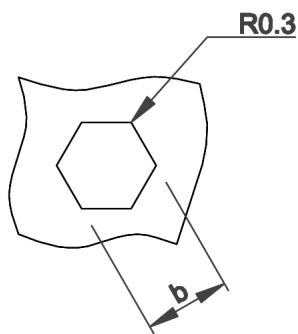
Stainless Steel 304

Semi-hexagonal shank
Flat head with underhead seal
Closed end

HX

see page 100 for
setting forces and
leak test info

leakproof
IPx8¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M5	HX3001	0,5-3,0	19,0	7,0	7,0	13,5	1,5	3,8	545905	(500)	2500
	HX4501	3,0-4,5	20,5					4,0	545910	-	2500
M6	HX3001	0,5-3,0	21,5	9,0	9,0	16,0	1,5	7,5	546903	(500)	1250
	HX4501	2,0-4,5	22,8				1,6	8,3	546907	-	1250
M8	HX3001	0,5-3,0	25,0	11,0	11,0	21,0	2,0	13,1	548902	-	500
	HX5501	3,0-5,5	27,5					13,6	548905	-	500
M10	HX4001	1,0-4,0	28,5	13,0	13,0	24,0	2,0	18,8	540901	-	400
	HX7001	4,0-7,0	31,5					19,7	540903	-	400
M12	HX7001	3,0-7,0	37,7	16,0	16,0	28,0	2,3	33,3	542904	-	250
	HX10001	6,0-10,0	40,7					36,0	542903	-	200

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

Other gripranges and dimensions on demand

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

¹ IPx8 guaranteed under Dejong test conditions





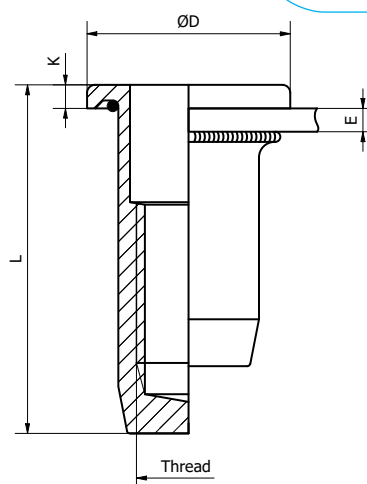
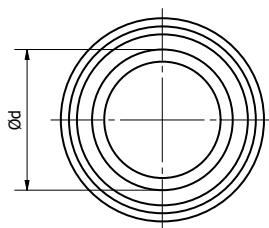
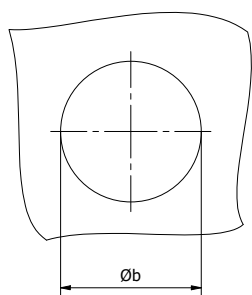
Stainless Steel 304

Knurled shank
Flat head with underhead seal
Closed end

KX

see page 100 for
setting forces and
leak test info

leakproof
IPx8¹



THREAD	TYPE	E = grip	L	$b^{+0,1}$ = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M6	KX3501	1,0-3,5	21,5	9,0	9,0	14,0	1,5	6,9	546915	-	1250
	KX6001	3,5-6,0	24,0	9,0	9,0	14,0	1,5	7,4	546916	-	1250

KX programme in progress

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

¹ IPx8 guaranteed under Dejong test conditions





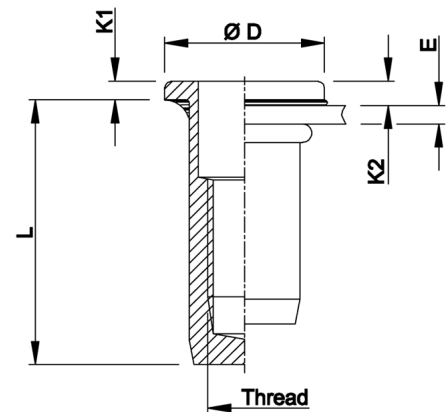
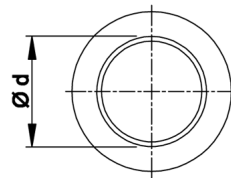
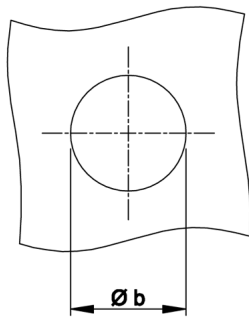
Stainless Steel 304

Round shank
Flat head with underhead seal
Closed end

DPX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K1	K2 max.	kg/1000	ORDER CODE D1	ORDER CODE D2	BOX Small	BOX Large
M4	DPX15	0,5-1,5	15,0	6,0	6,0	9,0	1,0	1,3	2,3	5441105	54411052	(1000)	5000
M5	DPX25	0,5-2,5	17,5	7,0	7,0	10,0	1,0	1,3	3,1	5451805	54518052	(500)	2500
	DPX45	2,5-4,5	19,5						3,3	5451855	54518552	(500)	2500
M6	DPX25	0,5-2,5	21,5	9,0	9,0	12,0	1,5	1,9	6,7	5461005	54610052	(500)	1500
	DPX45	2,5-4,5	23,5						7,0	5461055	54610552	(500)	1500
M8	DPX25	0,5-2,5	23,5	11,0	11,0	15,0	1,5	2,0	10,0	5480655	54806552	(500)	1000
	DPX50	2,5-5,0	26,0						10,3	5480665	54806652	(500)	750

Small box: only for DFS customers, not export - (xxx) handling cost can be charged
Other gripranges and dimensions on demand

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter "Technical Information"

¹ IPx7 guaranteed under Dejong test conditions

K2: Reference values only. Several factors (seal thickness, hole size, setting force ...) influence head and seal thickness after installation.





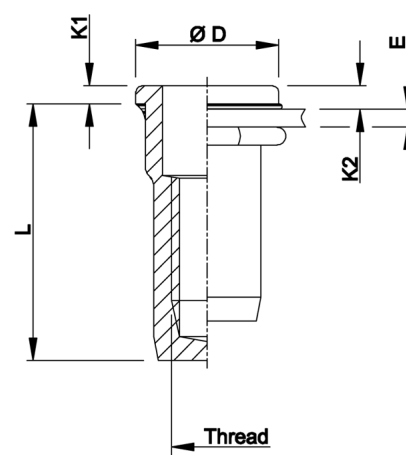
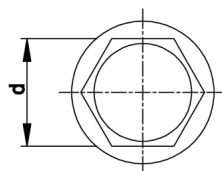
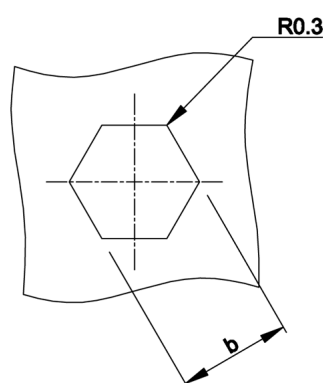
Stainless Steel 304

Semi-hexagonal shank
Flat head with underhead seal
Closed end

HDPX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K1	K2 max	kg/1000	ORDER CODE D1	ORDER CODE D2	BOX Small	BOX Large
M4	HDPX15	0,5-1,5	15,0	6,0	6,0	9,0	1,0	1,3	2,3	5445205	54452052	(1000)	5000
M5	HDPX20	0,5-2,0	17,5	7,0	7,0	10,0	1,0	1,3	3,1	5455205	54552052	(500)	2500
	HDPX40	2,0-4,0	19,5						3,3	5455255	54552552	(500)	2000
M6	HDPX20	0,5-2,0	21,5	9,0	9,0	12,0	1,5	1,9	6,7	5464705	54647052	(500)	1500
	HDPX40	2,0-4,0	23,5						7,0	5464755	54647552	(500)	1250
M8	HDPX20	0,5-2,0	23,5	11,0	11,0	15,0	1,5	2,0	9,8	5482605	54826052	(500)	750
	HDPX45	2,0-4,5	26,0						10,2	5482805	54828052	(500)	1000
M10	HDPX25	0,8-2,5	28,5	13,0	13,0	17,0	1,5	2,5	16,2	5406355	54063552	-	500
	HDPX50	2,5-5,0	31,0						17,2	5406365	54063652	-	500

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

Other gripranges and dimensions on demand

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter "Technical Information"

¹ IPx7 guaranteed under Dejong test conditions

K2: Reference values only. Several factors (seal thickness, hole size, setting force ...) influence head and seal thickness after installation.





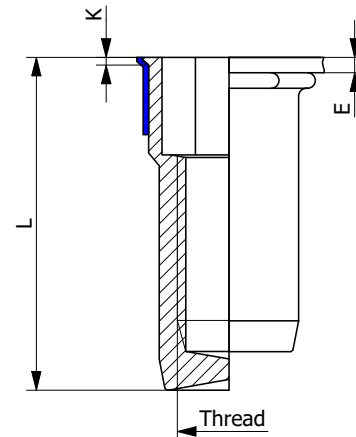
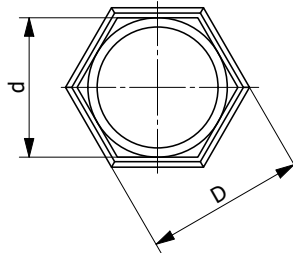
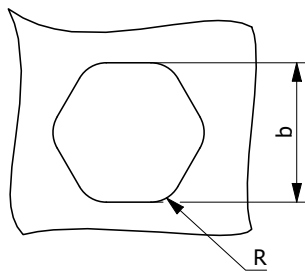
Stainless Steel 304

Semi-hexagonal shank
Low profile head with underhead seal
Closed end

leakproof IPx7¹

see page 100 for
setting forces and
leak test info

HDKX



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	R = radius +/- 0,05	d = hex shank	D = hex head	K	kg/1000	ORDER CODE D4	BOX Small	BOX Large
M4	HDKX17	0,5-1,7	15,5	6,0	1,6	6,0	6,5	0,5	1,8	54462054	(500)	5000
	HDKX27	1,7-2,7	16,5						1,9	54464054*	-	-
M5	HDKX27	0,5-2,7	18,0	7,0	1,8	7,0	7,5	0,5	2,7	54562054	(500)	4000
	HDKX47	2,7-4,7	20,5						2,9	54564054	(500)	3000
M6	HDKX27	0,5-2,7	21,5	9,0	2,2	9,0	9,7	0,5	5,7	54654054	(500)	2000
	HDKX47	2,7-4,7	23,5						6,1	54656554	(500)	1500
	HDKX67	4,7-6,7	25,5						6,5	54659054*	-	-
M8	HDKX27	0,5-2,7	24,0	11,0	2,7	11,0	11,8	0,5	8,7	54832054	(500)	1000
	HDKX52	2,7-5,2	26,5						9,1	54834054	(500)	1000
	HDKX77	5,2-7,7	29,0						9,5	54835054*	-	750
M10	HDKX32	0,8-3,2	29,5	13,0	2,8	13,0	13,8	0,7	14,2	54066054	(100)	350
	HDKX57	3,2-5,7	32,0						15,2	54067054*	-	500
M12	HDKX67	3,7-6,7	39,0	16,0	2,9	16,0	17,50	1,10	28,7	54288054	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non stock item:** minimum order quantity required after stock depletion of standard **Tubtara®** (without seal)

Compressed seal decreases maximum grip with approx. 0.3 mm, compared to standard **Tubtara®** (without seal)

Other grip ranges and dimensions on demand

All dimensions in mm - Technical data subject to modification

Tolerances, radius info and characteristics see chapter 'Technical Information'

¹ IPx7 guaranteed under Dejong test conditions

R: Hexagonal hole radius needs to be observed to obtain an IP 67 leakproof assembly, see p. 99 for more info





Stainless Steel 316

(contains > 2% Molybden)

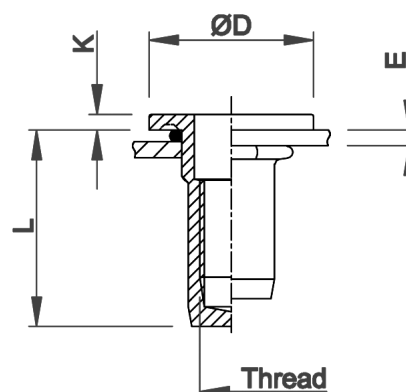
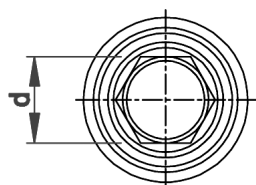
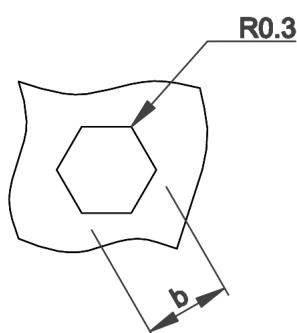
Semi-hexagonal shank
Flat head with underhead seal
Closed end

HX

see page 100 for
setting forces and
leak test info

leakproof
IPx8¹

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M5	HX3001	0,5-3,0	19,0	7,0	7,0	13,5	1,5	3,8	555905	(500)	2500
	HX4501	3,0-4,5	20,5					4,0	555910	-	2500
M6	HX3001	0,5-3,0	21,5	9,0	9,0	16,0	1,5	7,5	556903	(500)	500
	HX4501	2,0-4,5	22,8				1,6	8,3	556906	-	500
M8	HX3001	0,5-3,0	25,0	11,0	11,0	21,0	2,0	13,1	558902	-	500
	HX5501	3,0-5,5	27,5					13,6	558905	-	500
M10	HX4001	1,0-4,0	28,5	13,0	13,0	24,0	2,0	18,8	550901	-	-
	HX7001	4,0-7,0	31,5					19,7	550903	-	-
M12	HX7001	4,0-7,0	37,7	16,0	16,0	28,0	2,3	33,3	552904	-	-
	HX10001	7,0-10,0	40,7					36,0	552903	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

Other grip ranges and dimensions on demand

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

¹ IPx8 guaranteed under Dejong test conditions





Stainless Steel 316

(contains > 2% Molybden)

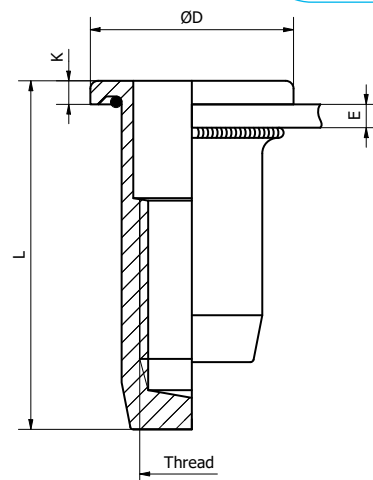
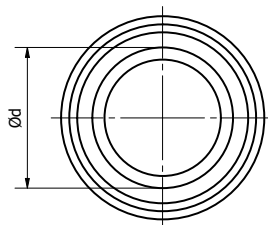
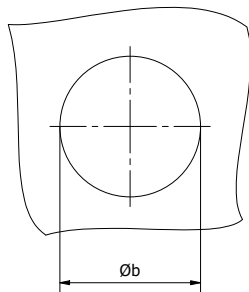
Knurled shank
Flat head with underhead seal
Closed end

KX

extra high
corrosion
resistance

see page 100 for
setting forces and
leak test info

leakproof
IPx8¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M6	KX3501	1,0-3,5	21,5	9,0	9,0	14,0	1,5	6,9	556915*	-	1250
	KX6001	3,5-6,0	24,0	9,0	9,0	14,0	1,5	7,4	556916*	-	1250

* **Non-stock item:** minimum order quantity required after depletion of stock

KX programme in progress

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

¹ IPx8 guaranteed under Dejongd test conditions





Stainless Steel 316

(contains > 2% Molybden)

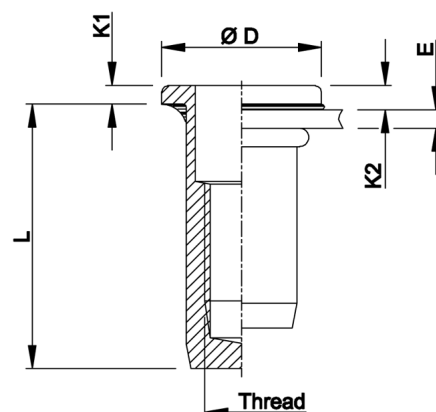
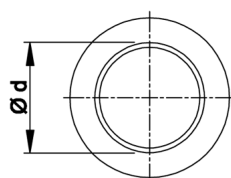
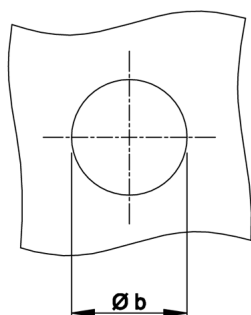
Round shank
Flat head with underhead seal
Closed end

DPX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K1	K2 max.	kg/1000	ORDER CODE D1	ORDER CODE D2	BOX Small	BOX Large
M4	DPX15	0,5-1,5	15,0	6,0	6,0	9,0	1,0	1,3	2,3	5541105	55411052	(500)	1500
M5	DPX25	0,5-2,5	17,5	7,0	7,0	10,0	1,0	1,3	3,1	5551805	55518052	(500)	1500
	DPX45	2,5-4,5	19,5						3,3	5551855	55518552	(500)	1500
M6	DPX25	0,5-2,5	21,5	9,0	9,0	12,0	1,5	1,9	6,7	5561005	55610052	(500)	750
	DPX45	2,5-4,5	23,5						7,0	5561055	55610552	-	750
M8	DPX25	0,5-2,5	23,5	11,0	11,0	15,0	1,5	2,0	10,0	5580655	55806552	(500)	1000
	DPX50	2,5-5,0	26,0						10,3	5580665	55806652	-	400

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

Other gripranges and dimensions on demand

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter "Technical information"

¹ IPx7 guaranteed under Dejong test conditions

K2: Reference values only. Several factors (seal thickness, hole size, setting force ...) influence head and seal thickness after installation.





Stainless Steel 316

(contains > 2% Molybden)

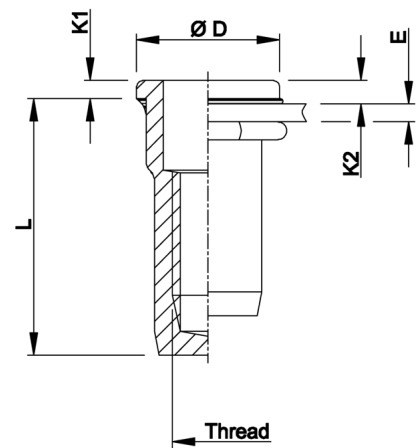
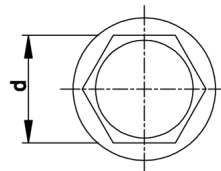
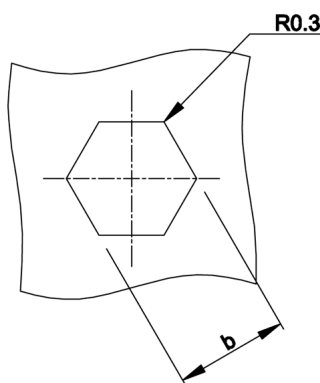
Semi-hexagonal shank
Flat head with underhead seal
Closed end

HDPX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹

extra high
corrosion resistance



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K1	K2 max.	kg/1000	ORDER CODE D1	ORDER CODE D2	BOX Small	BOX Large
M4	HDPX15	0,5-1,5	15,0	6,0	6,0	9,0	1,0	1,3	2,3	5545205	55452052	(500)	2000
M5	HDPX20	0,5-2,0	17,5	7,0	7,0	10,0	1,0	1,3	3,1	5555205	55552052	(500)	1500
	HDPX40	2,0-4,0	19,5						3,3	5555255	55552552	-	1200
M6	HDPX20	0,5-2,0	21,5	9,0	9,0	12,0	1,5	1,9	6,7	5564705	55647052	(500)	750
	HDPX40	2,0-4,0	23,5						7,0	5564755	55647552	(500)	750
M8	HDPX20	0,5-2,0	23,5	11,0	11,0	15,0	1,5	2,0	9,8	5582605	55826052	-	500
	HDPX45	2,0-4,5	26,0						10,2	5582805	55828052	-	500
M10	HDPX25	0,8-2,5	28,5	13,0	13,0	17,0	1,5	2,5	16,2	5506355	55063552	-	250
	HDPX50	2,5-5,0	31,0						17,2	5506365*	55063652*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock
Other gripranges and dimensions on demand

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter "Technical Information"

¹ IPx7 guaranteed under Dejong test conditions

K2: Reference values only. Several factors (seal thickness, hole size, setting force ...) influence head and seal thickness after installation.





Stainless Steel 316

(contains > 2% Molybden)

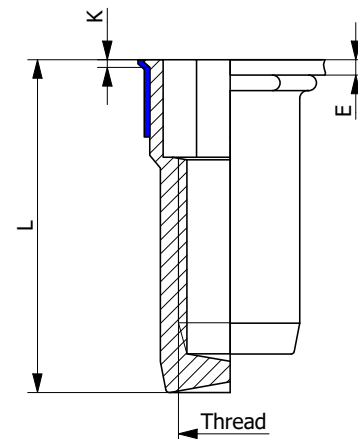
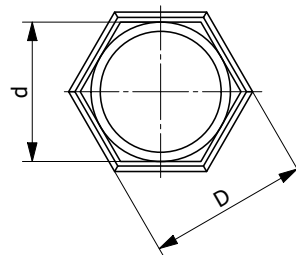
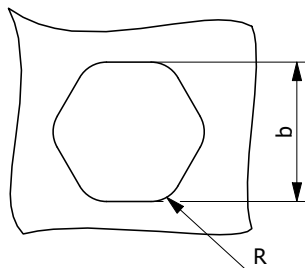
Semi-hexagonal shank
Low profile head with underhead seal
Closed end

see page 100 for
setting forces and
leak test info

leakproof IPx7¹

extra high
corrosion resistance

HDKX



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	R = radius +/- 0,05	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M4	HDKX17	0,5-1,7	15,5	6,0	1,6	6,0	6,5	0,5	1,8	55462054	(500)	5000
	HDKX27	1,7-2,7	16,5						1,9	55464054*	-	-
M5	HDKX27	0,5-2,7	18,0	7,0	1,8	7,0	7,5	0,5	2,7	55562054	(500)	2000
	HDKX47	2,7-4,7	20,5						2,9	55564054	(500)	1500
M6	HDKX27	0,5-2,7	21,5	9,0	2,2	9,0	9,7	0,5	5,7	55654054	(500)	1000
	HDKX47	2,7-4,7	23,5						6,1	55656554	(500)	750
M8	HDKX27	0,5-2,7	24,0	11,0	2,7	11,0	11,8	0,5	8,7	55832054	(500)	1000
	HDKX52	2,7-5,2	26,5						9,1	55834054	(500)	1000
M10	HDKX32	0,8-3,2	29,5	13,0	2,8	13,0	13,8	0,7	14,2	55066054	(100)	350
	HDKX57	3,2-5,7	32,0						15,2	55067054	-	250

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

Compressed seal decreases maximum grip with approx. 0.3 mm, compared to standard **Tubtara®** (without seal)

Other grip ranges and dimensions on demand

All dimensions in mm - Technical data subject to modification

Tolerances, radius info and characteristics see chapter 'Technical Information'

¹ IPx7 guaranteed under Dejong test conditions

R: Hexagonal hole radius needs to be observed to obtain an IPx7 leakproof assembly, see p.99 for more info





Steel

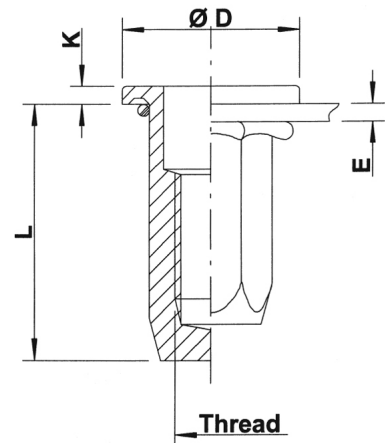
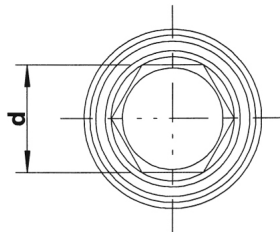
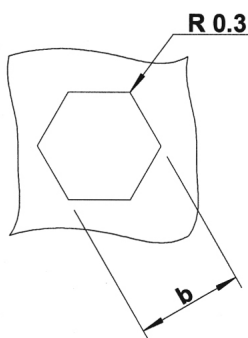
Full-hexagonal shank[#]
Flat head with underhead seal
Closed end

Zinctop 480h, Cr^{VI} - free

HX

see page 100 for
setting forces and
leak test info

leakproof
IPx8¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M5	HX3001	0,5-3,0	19,0	7,0	7,0	13,0	1,5	4,3	525925	(1000)	2500
M6	HX3001	0,5-3,0	21,5	9,0	9,0	15,0	1,5	8,0	526942	(1000)	1250
	HX5501	3,0-5,5	23,5					8,3	526949	-	1250
M8	HX3001	0,5-3,0	26,7					14,8	528935	-	500
	HX6001	3,0-6,0	29,7	11,0	11,0	20,0	2,0	15,4	528943	-	500
	HX8001	5,5-8,0	31,7					16,0	528958	-	500
M10	HX4001	1,0-4,0	28,5	13,0	13,0	23,0	2,0	20,9	520935	-	400
	HX7001	4,0-7,0	31,0					18,1	520936	-	400
M12	HX7001	4,0-7,0	37,7	16,0	16,0	28,0	2,3	34,8	522909	-	200
	HX10001	7,0-10,0	40,7						522913	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

[#] Except M10 and M12: semi-hexagonal shank

Other grip ranges and dimensions on demand

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

¹ IPx8 guaranteed under Dejong test conditions





Steel

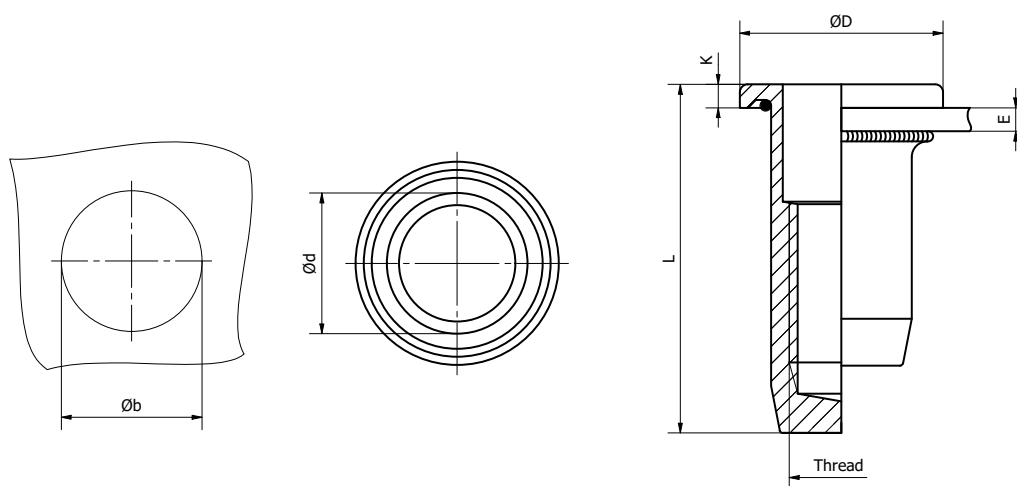
Knurled shank
Flat head with underhead seal
Closed end

Zinctop 480h, Cr^{VI} - free

KX

see page 100 for
setting forces and
leak test info

leakproof
IPx8¹



THREAD	TYPE	E = grip	L	$b^{+0,1}$ = hex hole	d = hex shank	D	K	kg/1000	ORDER CODE	BOX Small	BOX Large
M6	KX3501	1,0-3,5	21,5	9,0	9,0	13,0/14,0	1,5	-	526977*	-	1250
	KX6001	3,5-6,0	24,0	9,0	9,0	13,0/14,0	1,5	-	526978*	-	1250

* **Non-stock item:** minimum order quantity required after depletion of stock

KX programme in progress

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

¹ IPx8 guaranteed under Dejong test conditions





Steel

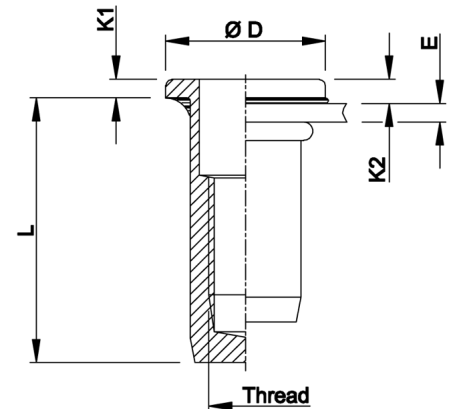
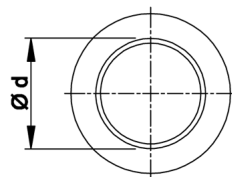
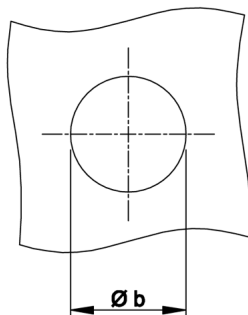
Round shank
Flat head with underhead seal
Closed end

Zinctop 480h, Cr^{VI} - free

DPX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K1	K2 max.	kg/1000	ORDER CODE D1	ORDER CODE D2	BOX Small	BOX Large
M4	DPX25	0,5-2,5	14,75	6,0	6,0	10,0	0,75	1,05	2,2	5241895	52418952	(2000)	5000
	DPX40	2,5-4,0	16,25						2,2	5242295*	52422952*	-	4000
M5	DPX25	0,5-2,5	18,0	7,0	7,0	11,0	1,0	1,3	3,5	5251695	52516952	(2000)	2500
	DPX50	2,5-5,0	20,5						3,7	5251895	52518952	(2000)	2500
M6	DPX25	0,5-2,5	21,5	9,0	9,0	13,0	1,5	1,9	6,9	5261695	52616952	(1000)	1500
	DPX50	2,5-5,0	24,5						7,2	5262095	52620952	(1000)	1250
	DPX75	5,0-7,5	27,0						7,5	5262395	52623952	-	1000
M8	DPX25	0,5-2,5	22,5	11,0	11,0	16,0	1,5	2,0	10,3	5281895	52818952	(500)	1000
	DPX50	2,5-5,0	25,5						11,1	5282095	52820952	(500)	750
	DPX75	5,0-7,5	28,0						11,7	5282395	52823952	-	700
M10	DPX30	0,8-3,0	27,5	12,45	12,4	18,5	2,25	3,25	14,7	5201395	52013952	-	500
	DPX55	3,0-5,5	30,5						15,7	5201595*	52015952*	-	500
M12	DPX65	3,0-6,5	38,0	16,0	16,0	23,0	2,0	3,0	30,2	5222095	52220952	-	200

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

¹ IPx7 guaranteed under Dejong test conditions

K2: Reference values only. Several factors (seal thickness, hole size, setting force ...) influence head and seal thickness after installation.





Steel

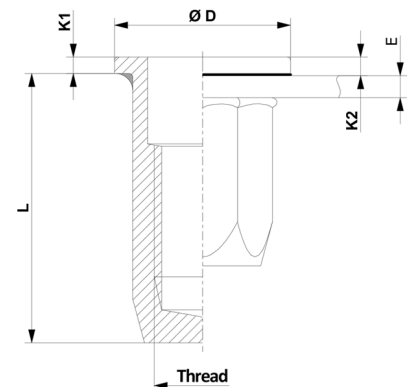
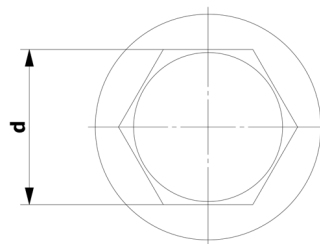
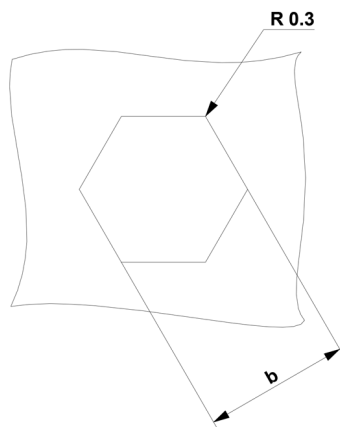
Full-hexagonal shank#
Flat head with underhead seal
Closed end

Zinktop 480h, Cr^{VI} - free

HDPX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D	K1	K2	kg/1000	ORDER CODE D1	ORDER CODE D2	BOX Small	BOX Large
M4	HDPX15	0,5-1,5	14,5	6,0	6,0	9,0	1,0	1,3	2,3	5246095	52460952	(1000)	5000
M5	HDPX20	0,5-2,0	19,0	7,0	7,0	10,0	1,0	1,3	3,7	5255895	52558952	(1000)	2500
	HDPX45	2,0-4,5	21,5						4,0	5255995	52559952	(1000)	2000
M6	HDPX20	0,5-2,0	21,5	9,0	9,0	13,0	1,5	1,9	7,5	5265695	52656952	(500)	1250
	HDPX45	2,0-4,5	23,5						7,7	5265795	52657952	(500)	1250
M8	HDPX20	0,5-2,0	24,5	11,0	11,0	16,0	1,5	2,0	11,8	5285295	52852952	(500)	750
	HDPX45	2,0-4,5	27,0						12,4	5285395	52853952	(500)	700
M10	HDPX25	0,8-2,5	31,0	13,0	13,0	19,0	2,0	3,0	19,2	5206545	52065452	-	400
	HDPX50	2,5-5,0	33,5						19,6	5206585	52065852	-	400
M12	HDPX30	1,0-3,0	35,0	16,0	16,0	23,0	2,0	3,0	30,6	5225295*	52252952*	-	200
	HDPX60	3,0-6,0	38,0						33,4	5225395*	52253952*	-	-

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

* **Non-stock item:** minimum order quantity required after depletion of stock

All dimensions in mm - Technical data subject to modification

Tolerances and characteristics see chapter 'Technical Information'

¹ IPx7 guaranteed under Dejong test conditions

K2: Reference values only. Several factors (seal thickness, hole size, setting force ...) influence head and seal thickness after installation.

Except M12: semi-hex





Steel

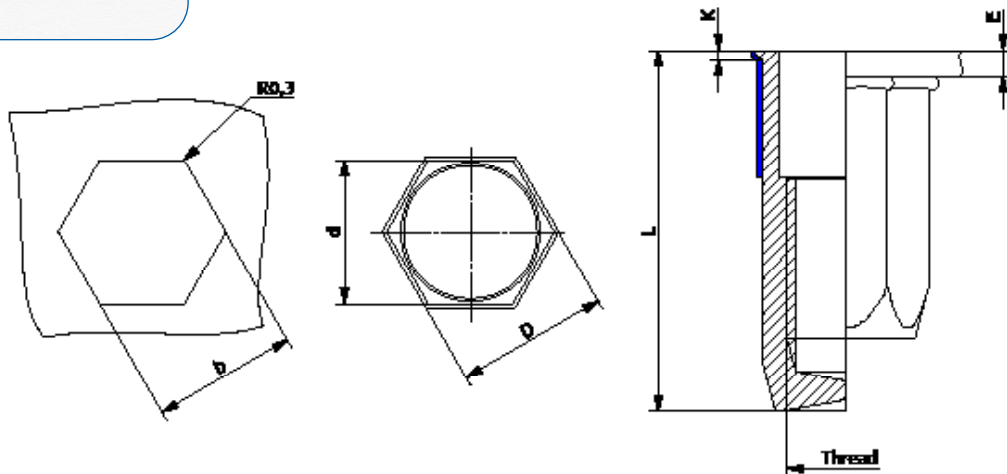
Full-hexagonal shank
Low profile head with underhead seal
Closed end

Zinktop 480h, Cr^{VI} - free

HDKX

see page 100 for
setting forces and
leak test info

leakproof IPx7¹



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE D4	BOX Small	BOX Large
M5	HDKX27	0,5-2,7	20,0	7,0	7,0	7,7	0,6	3,3	52564954	2000	3000
	HDKX52	2,7-5,2	22,5					3,6	52565954	-	2000
M6	HDKX27	0,5-2,7	22,0	9,0	9,0	9,8	0,7	6,6	52662954	1000	1750
	HDKX52	2,7-5,2	24,5					6,9	52663954	(1000)	1250
M8	HDKX27	0,5-2,7	25,0	11,0	11,0	11,8	0,7	10,5	52858954	(500)	1000
	HDKX52	2,7-5,2	27,5					10,7	52859054	(500)	750
M10	HDKX32	0,8-3,2	32,0	13,0	13,0	13,8	0,7	18,9	52064554	-	400
	HDKX57	3,2-5,7	34,5					20,4	52064654	-	450

Small box: only for DFS customers, not export - (xxx) handling cost can be charged

Compressed seal decreases maximum grip with approx. 0.3 mm, compared to standard **Tubtara®** (without seal)
Other gripranges and dimensions on demand

All dimensions in mm - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

¹ IPx7 guaranteed under Dejong test conditions



Application-oriented solutions:

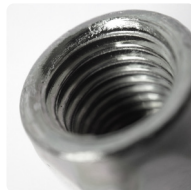
Customised features



Different materials and coatings



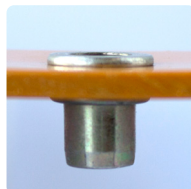
Special thread requirements



Steel semi-hex & other stocked parts



Setting in composites & plastics



- In-house R&D and technical support for specific applications



Dejond has more than 70 years of experience in developing and manufacturing **Tubtara**® blind rivet nuts. **Tubtara**® has become synonymous with high quality performance, innovation, in-house R&D and technical support. Always one step ahead of industry demand.

Tubtara® blind rivet nuts can be tailor-made in accordance with your specifications and to suit the demands of almost every application. Our in-house R&D engineers always strive to manufacture the best possible blind rivet nut fit. These customised solutions offer additional features to the standard **Tubtara**® such as increased torque-to-turn, sealing, controlled deformation, integration into parent material, centering, pressure spread, compatibility with other fasteners or tools, special thread requirements etc. The Tubtara's designed for the latest aerospace programmes for instance are used in composite material and aluminium structures on wing parts and seats.

Besides blind rivet nuts, Dejond Fastening also concentrates on cold forming selected parts according to customers' drawings for very specific applications.

For a detailed summary, visit www.dejondfastening.com and click on 'customised solutions'.



Our brochure on customised solutions
available now!



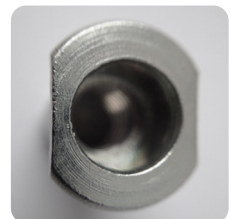
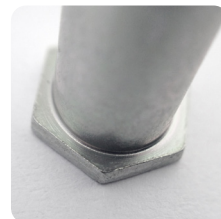
Please take the following into consideration when ordering custom-made rivet nuts:

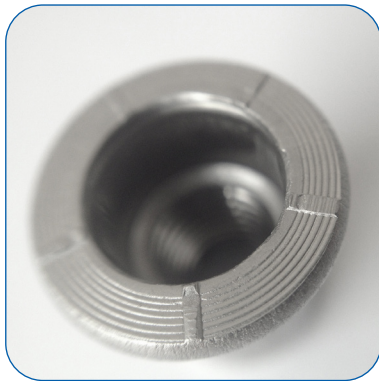
- Give us an accurate description of the application.
- If possible, include a drawing with indication of sizes, tolerances, material type and exact sheet thickness (incl. tolerances).
- Tell us about other special features or important remarks we need to know.
- If possible, provide us with a sample of the application and/or existing fastener solution. We can also do a sample run or produce machined parts (small quantity or test parts).
- Indicate any special technical requirements such as torque value, mount load, tensile or thread strength, etc..
- Specify which type of setting equipment will be used.
- We can also do a sample run, or produce machined test parts or small quantities.
- Other materials, for e.g. increased corrosion resistance or high strength, are also possible.

Our R&D people will evaluate your request and our Sales Department will provide you with information.

Some examples of additional features providing innovative solutions for your problems:

- Increased torque-to-turn / spin-out resistance
- Spacer function
- Controlled deformation
- (Full) integration into parent material (e.g. composites)
- Flush installation
- Seal function
- Visual identification
- Centering
- Search function (for automatic installation)
- Pressure spread
- Facilitate field repair
- Compatibility with available fasteners
- Compatibility with available tools
- Drip / dry function (paint, oil, ...)
- Blind installation parameters and/or limited space
- Thread requirements (e.g. acc. NASM25027)
- (Electrical) conductivity
- Increased push-out force
- Increased pull-out force (thread strength)
- Anti-vibration
- Grip (range)





Stainless Steel A5 & A6

Standard shank versions
Standard head types
Open or closed end
1st and 2nd grips

superior corrosion
protection

Cold formed Tubtara® in high alloy austenitic stainless steel A5 and A6



● Material

Stainless steel A5 : 316 Ti – WNr 1.4571
Stainless steel A6 : 904L – WNr 1.4539

● Applications

- extremely demanding, chloride bearing applications where even A4 fasteners in stainless 316 offer insufficient corrosion protection
- A6 grade is also armoured against strong acid bearing environments
- civil engineering, tunnel infrastructures, ceiling panels in swimming pools etc.

● Important advantages

- Superior corrosion protection, mainly thanks to considerable nickel and molybdenum content
- A6 guarantees increased protection against pitting and crevice corrosion, reaching a PRE (pitting resistance equivalent) value of 35 (compared to PRE 25 for stainless 316)

● Samples

Following samples available from stock: stainless A6 M6 UPO 30 – stainless A5 M8 UPO30 / M8 UPO 65 / M8 UFO 45 / M8 UFO 65 / M8 UFX 45 / M8 UKO 30 / M8 HUKO 30

Development of other dimensions upon request





Seal Inox® topcoat on stainless steel

Semi-hexagonal or knurled shank
Standard head types
Open or closed end
Different grips

Seal Inox® topcoat on stainless Tubtara® prevents galling

● What is Seal Inox®?

Seal Inox® is a topcoat that makes it easier to assemble stainless steel threaded parts. The integrated lubricant additive in this topcoat prevents gripping during assembly, also called 'galling'.

Galling is caused by adhesion of two sliding surfaces under increased friction and often occurs between stainless steel threaded connections.

Characteristics :

- thin dry layer
- can be applied in single or two layers [to avoid any assembly problem, we recommend to use a (hex) hole tolerance of 0.05 - 0.15 mm instead of 0 - 0.1 mm]
- visually distinguishable grey treatment, other colours on request
- friction coefficient 0.09 – 0.14 (according to DIN EN ISO 16047)
- temperature resistance 180°C
- conforms to ELV and RoHS, Cr⁶⁺ free

● Benefits of a Seal Inox® topcoat on stainless Tubtara® blind rivet nuts

- reduces friction and prevents galling
- provides a higher clamping force
- reduces assembly time
- slows down contact corrosion
- protects against various chemicals e.g. chlorides, acids and oils
- can be applied on our different stainless steel qualities: 304, 316, 316Ti, 904L
- is preferentially applied on hexagonal or knurled Tubtara's since Seal Inox® will be present on both inside and outside surfaces, thus potentially reducing torque-to-turn for round Tubtara's

Galling between a stainless bolt or screw and a stainless **Tubtara®** can occur when the assembly is done with a power tool (often at high speeds), but also when the bolt or screw is assembled and tightened by hand.

● Availability

Seal Inox® is only applied to order (non-standard).
Prices and lead times available on request.

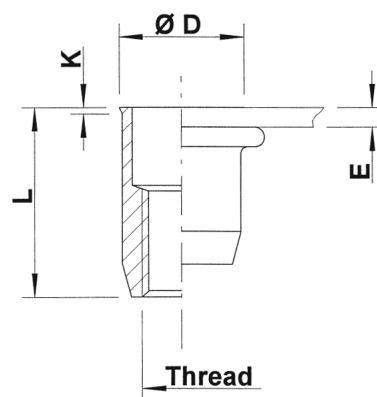
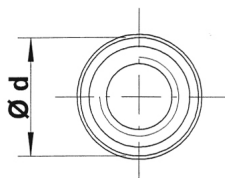
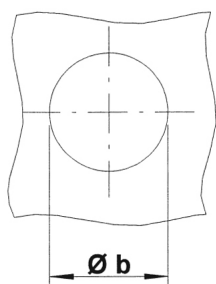




Stainless Steel 304

Round shank
Low profile head
Open end

UKO
UNIFIED THREAD



THREAD	TYPE	E = grip	L	b ^{+0,1} = drill dia	d = shank dia	D	K	kg/1000	ORDER CODE	BOX Large
10-32 UNF	UKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	549500	5000
1/4-20 UNC	UKO30	0,5-3,0	14,5	9,0	9,0	9,5	0,5	3,4	547660	3000
5/16-18 UNC	UKO30	0,5-3,0	16,0	11,0	11,0	11,5	0,5	5,0	547830	2000

All dimensions in mm

THREAD	TYPE	E = grip	L	b ^{+0.004} = drill dia	d = shank dia	D	K	lbs/1000	ORDER CODE	BOX Large
10-32 UNF	UKO30	.020-.118	0.472	0.276	0.276	0.295	.020	3.30	549500	5000
1/4-20 UNC	UKO30	.020-.118	0.571	0.354	0.354	0.374	.020	7.49	547660	3000
5/16-18 UNC	UKO30	.020-.118	0.630	0.433	0.433	0.453	.020	11.00	547830	2000

All dimensions in inches - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'

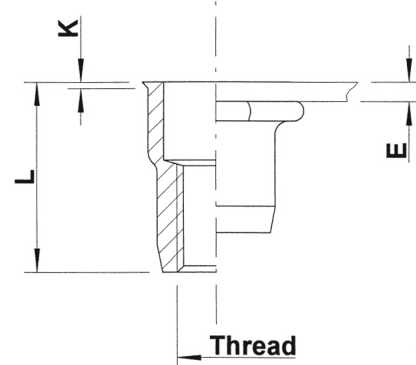
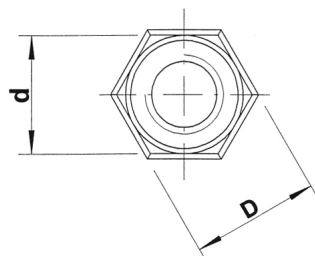
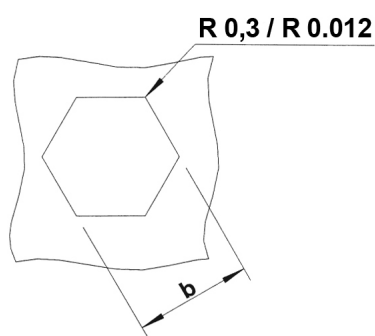




Stainless Steel 304

Semi-hexagonal shank
Low profile head
Open end

HUKO
UNIFIED THREAD



THREAD	TYPE	E = grip	L	b ^{+0,1} = hex hole	d = hex shank	D = hex head	K	kg/1000	ORDER CODE	BOX Large
10-32 UNF	HUKO30	0,5-3,0	12,0	7,0	7,0	7,5	0,5	1,5	549530	5000
1/4-20 UNC	HUKO30	0,5-3,0	14,5	9,0	9,0	9,7	0,5	3,3	547690	3000
5/16-18 UNC	HUKO30	0,5-3,0	16,0	11,0	11,0	11,8	0,5	4,9	547850	2000

All dimensions in mm

THREAD	TYPE	E = grip	L	b ^{+0.004} = hex hole	d = hex shank	D = hex head	K	lbs/1000	ORDER CODE	BOX Large
10-32 UNF	HUKO30	.020-.118	0.472	0.276	0.276	0.295	.020	3.30	549530	5000
1/4-20 UNC	HUKO30	.020-.118	0.571	0.354	0.354	0.382	.020	7.27	547690	3000
5/16-18 UNC	HUKO30	.020-.118	0.630	0.433	0.433	0.465	.020	10.79	547850	2000

All dimensions in inches - Technical data subject to modification
Tolerances and characteristics see chapter 'Technical Information'



What you also really need to know about Tubtara®

Did you know...?

- ... that every open end part we make, can also be offered as a closed end version ?
Even if you cannot find it anywhere else in the world (not even in this catalogue) ?
- ... that every closed end part, can be offered with a suitable under head sealing, so it becomes a leakproof rivet nut ?
Yes, there is a seal type for every head shape, but not every seal fits all head types.
- ... that we also offer test runs (lump sum for ca. 1000 pcs) or machined parts (e.g. prototypes) ?
Sometimes a drawing alone, or a few samples, do not suffice, and a larger volume of a customised part is needed to do tests and see if the parts perform well in the application. A test run of about 1000pcs at a fixed price can be the solution.
- ... that the minimum order quantity for a customised part can be as low as 15,000 pcs ?

Did you know we have a lot more to offer from stock, than just our standard range ?

Customer demand for high strength material, special coatings or a combination of geometrical features and specific functions, increases. Therefore we design and produce a lot of different rivet nuts, trials, customised parts, or rivet nuts with combined characteristics. We also try to reduce lead times and keep high levels of stock, and therefore we have a lot more in our warehouse, that is not in this catalogue. Have a look at below parts & versions, all of them a bit special, but readily available from stock:

material & coating	threads	type	grip	what's special about this part?	order code	stock (#)
Deviating slightly from the standard part						
Aluminium	M4	HUPX 20	0,5-2,0	alu + hex body	514640	> 25k
Aluminium	M4	UPO 40	2,0-4,0	deviating grip	514040	> 15k
Aluminium	M5	UPO 40	2,0-4,0	deviating grip	515035	> 15k
Steel Zinktop	M10	SKX 60	3,5-6,0	body diam. 13,0 in stead of 12,4mm	520479	< 15k
Special coatings						
SS304Cu + GleitmoSFL9085	M5	HUKO 30	0,5-3,0	Gleitmo SFL 9085	5456004	< 25k
SS304Cu + Seal Inox+	M5	HUPO 30	0,5-3,0	Seal Inox+	5455006	< 15k
SS304Cu + Seal Inox+	M6	HUPO 30	0,5-3,0	Seal Inox+	5464606	< 15k
Steel Ultra 1000	M6	HUKX 30	0,5-3,0	Ultra 1000 (Gleitstar topcoat)	5266299	< 100k
Steel Ultra 1000	M6	HUPX 55	3,0-5,5	Ultra 1000 (Gleitstar topcoat)	5265799	< 15k
Steel zinc nickel (r645)	M8	UKO KN SP071217	2,5-5,0	VW coating	528960	> 25k
Special materials: High-Strength Steel						
Hi-Strength Steel (VWNr 1,5535)	M5	HX 3001	0,5-3,0	leakproof (O-ring) + Hi-Strength	595925	< 15k
Hi-Strength Steel (VWNr 1,5535)	M8	UPO 30 - 55 - 80	-	round body, flat head, several grips	-	< 15k
Hi-Strength Steel Ultra 1000	M8	HUPO 30	0,5-3,0	VWNr 1,5535 + Ultra 1000	5984829	> 250k
Hi-Strength Steel (VWNr 1,5535)	M8	HUPO 55 - 80	-	hex body, flat head, several grips	-	< 15k
Hi-Strength Steel (VWNr 1,5535)	M8	HUKO 35	3,0-5,5	hex body, low profile head	-	< 15k
Other special materials						
SS316Ti (A5)	M8	UFX 45	1,8-4,5	316 Ti alloyed (A5)	568150	< 15k
Brass	M8	UPO 30	0,5-3,0	remaining stock	538025	< 15k
Special features or geometry						
Aluminium	M5	UPX SP131016	0,5-2,0	optimised grip range	515908	> 25k
SS304Cu	M12	UPO SP040515	4,0-7,0	M12 lower setting force for grip 7mm	542900	< 15k
SS304Cu	M5	HUKO SP501004	0,5-3,0	adapted head height (0,5-0,7) & diam. (7,85mm)	545903	> 25k
Steel Zinktop	M8	HUKO SP300419	2,0-4,5	customised grip for white goods application	528965	> 25k
Steel Zinktop	M6	HUPX SP300120	0,5-3,0	M6 threads in M8 body, closed end	526964	<15k
Steel Zinktop	M6	UPO 30 SP100217	0,5-3,0	M6 threads in M8 body (diam.11mm)	528953	<15k

What you also really need to know about Tubtara®

material & coating	threads	type	grip	what's special about this part?	order code	stock (#)
Other threads (*)						
SS304Cu	1/4-20UNC	HUKX 30	0,5-3,0	imperial threads	547692	> 15k
SS304Cu	1/4-20UNC	HUPX 30	0,5-3,0	imperial threads	547691	> 15k
SS304Cu	10-32UNF	HUKX 30	0,5-3,0	imperial threads	549560	< 15k
Steel Zinktop	5/16-18UNC	SHUKX SP230619	0,5-3,0	semi-hex + imperial threads	529901	< 15k
Steel Zinktop	M10X1,25	HSPO SP010261	0,8-3,5	M10 shank 13,0mm + different thread pitch	520922	> 25k
Anti Spin-out features						
SS304Cu	M5	UKO 30 RS	0,5-3,0	SS + low profile head + RS splines	545701	> 15k
SS304Cu	M8	UPO 30 RS	0,5-3,0	SS + RS splines	548700	< 15k
Steel Zinktop	M5	UFO KN SP270219	1,7-4,0	KN knurl under head/on shank	525938	> 15k
Steel Zinktop	M5	M5 UKO 30 RS	0,5-3,0	combination low profile head + RS splines	525780	> 25k
Steel Zinktop	M10X1,25	UPO 35 RS	0,8-3,5	L=19,75mm - splined shank 12,9mm - b=13,0mm	520923	> 25k
Steel Zinktop	M10X1,25	UPO 60 RS	3,5-6,0	L=22,75mm - splined shank 12,9mm, b=13,0mm	520938	> 15k

(*) SS304Cu UKO and HUKO series with imperial threads are standard series (see product sheets in this catalogue)

(#) situation on 05/06/23



What you also really need to know about Tubtara®

Did you know we have steel rivet nuts with a semi-hexagonal shank, available from stock ?

Our standard Tubtara® product range in Steel Zinktop with hex body features a full hexagonal shank (*) for increased strength and spin-out (torque-to-turn) resistance. Due to customer demand and for specific applications, we also developed a semi-hex range in steel, with 2 head styles, and 2 grip ranges. Have a look at below steel semi-hex rivet nuts, available from stock:

material & coating	threads	type	grip	what's special about this part?	order code	stock (#)
Steel with SEMI-HEXAGONAL SHANK						
				semi-hex body, low profile head (45°), open end		
Steel Zinktop	M4	SHUKO 33	0,7-3,3	shank diam. 6,0mm	5242639	25k
Steel Zinktop	M5	SHUKO 33	0,7-3,3	shank diam. 7,0mm	5252619	50k
Steel Zinktop	M5	SHUKO 55	3,3-5,5	shank diam. 7,0mm	5252629	15k
Steel Zinktop	M6	SHUKO 33	0,7-3,3	shank diam. 9,0mm	5262599	50k
Steel Zinktop	M6	SHUKO 55	3,3-5,5	shank diam. 9,0mm	5262609	25k
Steel Zinktop	M8	SHUKO 33	0,7-3,3	shank diam. 11,0mm	5282559	50k
Steel Zinktop	M8	SHUKO 55	3,0-5,5	shank diam. 11,0mm	5282569	25k
Steel Zinktop	M10	SHSKO 33	0,7-3,3	shank diam. 13,0mm	5202669	25k
Steel Zinktop	M10	SHSKO 55	3,0-5,5	shank diam. 13,0mm	5202679	25k
				semi-hex body, flat head, open end		
Steel Zinktop	M4	SHUPO 33	0,7-3,3	shank diam. 6,0mm	5242599	25k
Steel Zinktop	M5	SHUPO 33	0,7-3,3	shank diam. 7,0mm	5252569	50k
Steel Zinktop	M5	SHUPO 55	3,3-5,5	shank diam. 7,0mm	5252579	15k
Steel Zinktop	M6	SHUPO 33	0,7-3,3	shank diam. 9,0mm	5262539	35k
Steel Zinktop	M6	SHUPO 55	3,3-5,5	shank diam. 9,0mm	5262549	25k
Steel Zinktop	M8	SHUPO 33	0,7-3,3	shank diam. 11,0mm	5282499	30k
Steel Zinktop	M8	SHUPO 55	3,0-5,5	shank diam. 11,0mm	5282509	25k
Steel Zinktop	M10	SHSPO 33	0,7-3,3	shank diam. 13,0mm	5202649	25k

(*) except M12: semi-hex shank

(#) situation on 10/03/23

Did you know we treat all our stainless parts with our proprietary passivation process ?

Stainless steel remains stainless, because of the interaction between its alloying elements and the environment. Stainless steel contains iron, at least 10 percent chromium, significant amounts of nickel, and also manganese, silicon, carbon and sometimes molybdenum.

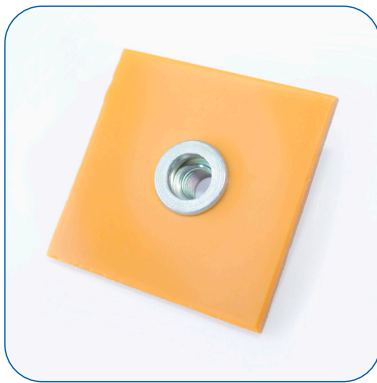
These elements, with chromium playing a dominant role, react with oxygen to form a very thin, stable film that consists of such corrosion products as metal oxides.

The presence of the stable film prevents additional corrosion by acting as a barrier that limits oxygen and water access to the underlying metal surface.

In summary, stainless steel does not rust because it is sufficiently reactive to protect itself from further attack by forming a passive corrosion product layer.

At Dejong Fastening we process all stainless steel Tubtara's with a proprietary surface treatment, strengthening the oxide film, i.e. increase its stability, to obtain a 'natural' passivation layer. This improves the corrosion resistance, compared to common stainless steel parts in the market.





Stainless steel

Round shank
Flat head
Open or closed end
Customised grip

Patented
BE2017/0141

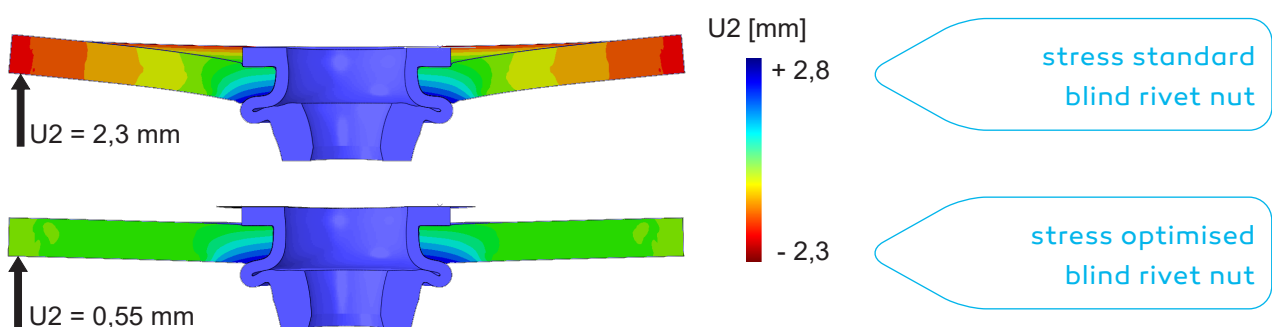
Tubtara® with controlled deformation for use in plastics and composites

● Design & Applications

Specific **Tubtara®** blind rivet nut design, optimised for applications in engineered plastics and composite materials. The exact (deformation chamber wall) location where the bulge formation initiates, is pre-defined. This improved setting behaviour avoids high stress build-up and consequent deformations or damages in the parent material.

● Important advantages

- Ensures strong threads in brittle or soft materials
- Minimal stress build-up in the hole (on hole edges)



- No damage to the workpiece
- Avoids visual deformations in the parent material due to high stresses
- Limits composite material failure risks (e.g. cracks and yield zones, delamination, damaged fibers,..)

● Availability

- Only available as an application specific, customised part



Setting equipment & tooling

A **Tubtara®** can be set with a hand-, (oleo-)pneumatic or battery tool, a press or an automatic installation unit.

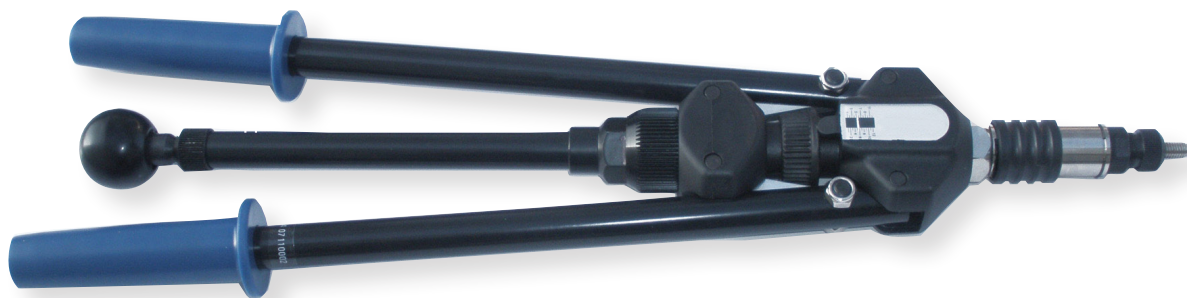
● Hand tool

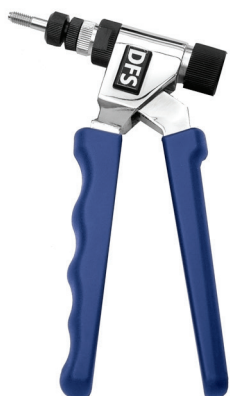
DFS 309 T*							
	Tubtara® blind rivet nuts						
	M3	M4	M5	M6	M8	M10	M12
Steel		•	•	•	•	•	
Stainless steel		•	•	•	•	•	
Aluminium		•	•	•	•	•	•
	blind rivet bolts						
	M3	M4	M5	M6	M8	M10	M12
Steel			•	•	•		
Stainless steel			•	•	•		
Aluminium			•	•	•		

Heavy duty hand tool for field and low volume production use
Push and pull mechanism

Tooling is included except for M12

*tool update in progress





DFS 307 T							
	Tubtara® blind rivet nuts						
	M3	M4	M5	M6	M8	M10	M12
Steel	•	•	•				
Stainless steel	•	•	•				
Aluminium	•	•	•	•			

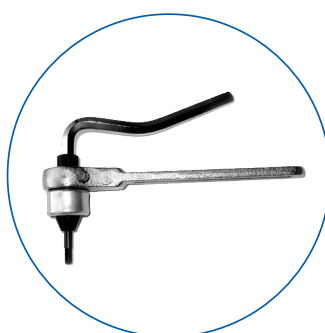
Compact & practical hand tool for light duty assembly.

DFS 311 T*							
	Tubtara® blind rivet nuts						
	M3	M4	M5	M6	M8	M10	M12
Steel				•	•	•	•
Stainless steel				•	•	•	
Aluminium				•	•	•	•



Strong and reliable hand tool for heavy duty assembly in the field.

*tool update in progress



NM 1							
	Tubtara® blind rivet nuts						
	M3	M4	M5	M6	M8	M10	M12
Steel		•	•	•	•	•	•
Stainless steel		•	•	•			
Aluminium		•	•	•	•	•	•

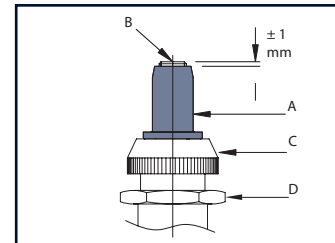
Small hand tool for prototype work and repairs

Setting method

Select one of the **Tubtara®** blind rivet nuts out of our product range and a setting tool adequate for the application. Take a test workpiece and drill an appropriate hole

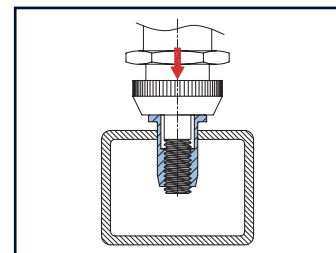
STEP 1

Screw the **Tubtara®** blind rivet nut (A) on the mandrel (B) of the setting tool. In the case of the open version, the mandrel should protrude about 1 mm. For closed rivet nuts, continue screwing until you feel resistance. Screw the anvil (C) against the head of the **Tubtara®** and block it with the locking nut (D).



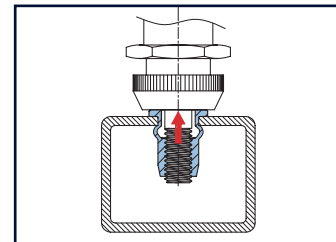
STEP 2

Insert the **Tubtara®** blind rivet nut, mounted on the setting tool, into the hole of the workpiece



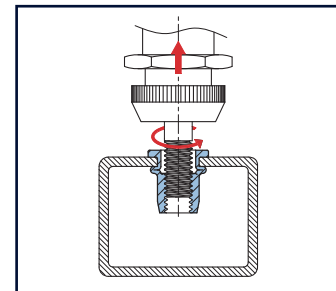
STEP 3

Set the **Tubtara®**. The Tubtara's deformation chamber now forms the counter head (bulb) on the underside of the workpiece



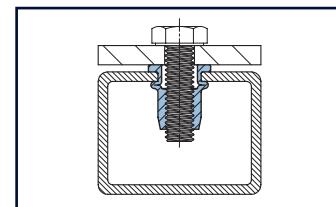
STEP 4

Unscrew the mandrel from the **Tubtara®**.



STEP 5

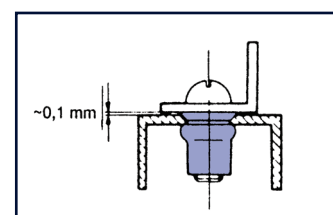
The **Tubtara®** blind rivet nut is now set. You can now easily insert your bolt or screw to assemble another component.



● Countersunk heads

Are you using a **Tubtara®** blind rivet nut with a countersunk head? Always countersink at 90° so that the head of the installed **Tubtara®** protrudes about 0.1 mm above your workpiece. This ensures direct contact with the assembled component.

Don't have the possibility to countersink?
Use a low profile head.



Materials

The **Tubtara®** is available from stock in steel, aluminium and stainless steel 304 & 316.

For critical bearing environments, we can also offer the following solutions to cope with most environmental conditions :

- superior cold formed stainless A5 or A6 quality on demand,
- high strength (HS) grades in steel and aluminium on demand,
- several finishing options on stainless like Cadmium, ZnNi, Seal Inox®,
- passivated stainless steel.

Available from stock:

Material			W Nr
Aluminium	AlMg2,5	5052	3.3523
Steel	C8C	QST 34-3	1.0213
Stainless steel A2	304Cu		1.4567
Stainless steel A4	316Cu		1.4578

Available on request :

Material			W Nr
Stainless steel A5	316Ti		1.4571
Stainless steel A6	904L		1.4539
HS (High Strength) steel	23MnB4		1.5535
HS (High Strength) aluminium	AlMg3,5	5154	

Material specifications are always subject to modifications.

● How to choose the right material ?

Choosing the right material and coating for your **Tubtara®** blind rivet nuts is very important for obtaining optimal functionality during the whole life cycle, especially when environmental conditions are unknown or critical. Influences can be chemical (elements dissolved in water), abrasive (sand), heat, friction, contact with other metals, corrosive environments, etc.

The ideal material choice is not always easy and all conditions should be taken into account. We therefore strongly advise to check the following tables and do some tests in the specific application environment in advance.



● Requirements & solutions

	Aluminium	Steel with appropriate coating	Stainless A2	Stainless A4	Stainless A5	Stainless A6
colour distinction		xxx				
visual identification		xxx				
weight-saving	xxx		x	x	x	x
durable	x	x → xxx	xx	xxx	xxx	xxx
easily recycable	xxx	xxx	xxx	xxx	xxx	xxx
electrical conductivity	xxx	xx	xx	xx	xx	xx
high/low temperature properties	x	xx	xxx	xxx	xxx	xxx
non-magnetic	xxx		x	x	x	x
increased corrosion resistance	xx	o	xxx	xxx	xxx	xxx
resistant to atmospheric exposure	xx	o	xxx	xxx	xxx	xxx
resistant to chloride atmospheres		o		xxx	xxx	xxx
resistant to polluted environments		o		xxx	xxx	xxx
resistant to harsh environments		o			xxx	xxx
resistant to process fluids		o			xxx	xxx
top coating possible		xxx				
full passivation possible (*)			x	x	x	x

Legend	
o	possible influence
x	small influence
xx	larger influence
xxx	largest influence

(*) all stainless steel by Dejong Fastening has undergone a chemical/mechanical cleaning process (natural passivation)

● Galvanic couples

A suited material choice is not always easy and all conditions should be taken into account. The table below shows some connection guidelines for corrosion:

		Blind rivet nut material		
		zinc plated steel	aluminium	stainless steel 304 & 316
base metal wherein Tubtara is set	aluminium			
	zinc plated steel			
	brass, copper	T T®	T T®	
	stainless steel 4xx	T T®	T T®	
	stainless steel 304 & 316	T T®	T T®	

Legend	
	base metal and Tubtara® ok
	base metal corrodes where in contact with Tubtara®
T T®	base metal ok but Tubtara® will corrode
	corrosion base metal heavily increased by Tubtara®

We strongly advise to do some tests in the specific application environment. Samples are available on request.

Coatings

A suitable coating choice can offer additional characteristics to your **Tubtara®**.

● Coating on steel available from stock

Zinctop

High-quality Cr⁶⁺ & Ni free plating
Conforms with ROHS, Reach, ELV directives
96 h white rust - 480 h red rust
10µ ±2µ

● Survey available coating offer



photo	coating description	standard / on request	salt spray test (h) ISO 9227		colour / aspect	RoHS / Reach compliant	remarks
			white rust	red rust			
1	Zinc blue/white Cr ³⁺	REQ	24	72	blue/white	✓	Cr ⁶⁺ free
2	Zinc black Cr ³⁺	REQ	48	96	black	✓	Cr ⁶⁺ free
3	Zinctop	ST	96	480	light grey	✓	Cr ⁶⁺ and Ni free
4	Zinctop Cobalt free	REQ	96	480	light grey	✓	Cr ⁶⁺ , Ni and Co free
5	Ultra 1000	REQ	240	1000	light grey	✓	Cr ⁶⁺ and Ni free
6	ZnNi (Zinc Nickel)	REQ	quality according to customer's specs				
7	Vibraseal®	REQ	x	x	red, green	✓	seals + anti-vibration
8	Gleitmo®	REQ	x	x	-	✓	friction reduction
9	Seal Inox®	REQ	x	x	matt grey	✓	avoids galling
10	Passivation	REQ				✓	only on stainless steel

The Ultra 1000 is more than doubling the resistance to red rust in the salt spray test compared to the standard Zinctop, and has a friction reducing topcoat (friction coefficient 0,09 - 0,12). The offer of blue and black trivalent coatings, as well as the Cobalt free Zinctop, are developed to tackle imminent Reach regulations and can be delivered on demand.

Residue possible in closed end parts, due to electrolytic coating process.

● Stainless Steel

All stainless steel Tubtara's have been treated in-house with an additional proprietary surface treatment process, to obtain a natural passivation layer, improving the corrosion resistance compared to common stainless steel parts in the market.

Optional coatings on stainless steel are

- Gleitmo® / Seal Inox® / Cadmium / ZnNi
- full passivation.

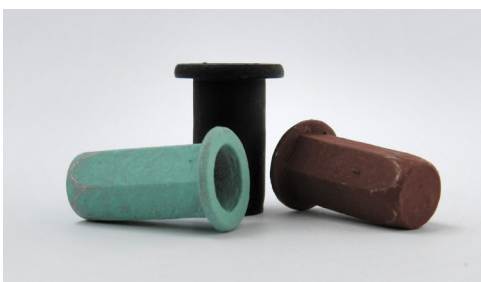
● Why use a coating ?

Requirements & solutions :

	Zinctop on steel	Coloured plating on steel	Passivation on stainless steel	Gleitmo®	Vibraseal®	Seal Inox®	Molykote®
appropriate visual aspects		+					
colour distinction		+			o	o	
to avoid galling				+		+	+
reduction of friction				+		+	+
increase of friction				-		-	-
to avoid galvanic couple	o	o	+		+	+	
electrical conductivity	+				-	-	-
anti-vibration function					+		
increased corrosion resistance	+		+			+	
seal function					+	+	
UV illumination				+			

Legend	
-	negative influence
o	possible influence
+	positive influence

We strongly advise to do some tests in the specific application environment.
Samples are available on request.

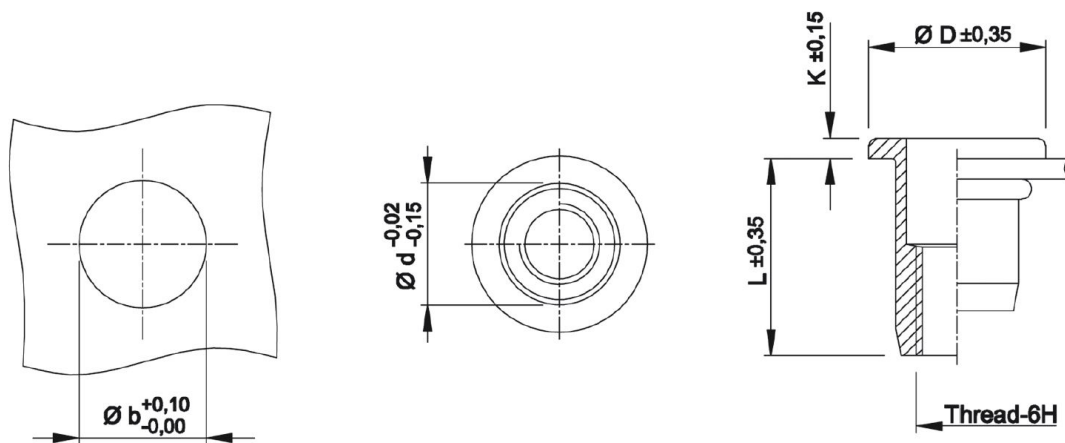


Technical Data

● General tolerances

	Head form	Dimensions in mm	Dimensions in inches
D (head diameter)	Flat head Countersunk head Low profile head	$\pm 0,35$ $0 -0,5$ $-0,15 +0,3$	$\pm.014$ $0 -.020$ $-.006 +.012$
K (head thickness)	Flat head Countersunk head Low profile head	$\pm 0,15$ $0 +0,3$ $-0,05 +0,3$	$\pm.006$ $0 +.012$ $-.002 +.012$
L (length)	General	$\pm 0,35$	$\pm.014$
Metric thread= 6H			
Shank size	General (incl. KN) Splined shank (RS) M10 shank 12,4 mm	$-0,02 -0,15$ $\pm 0,08$ $\pm 0,08$	$-.001 -.006$ $\pm.003$ $\pm.003$

Example:



● Recommended tightening torque values (Nm)

Max. recommended torque to avoid damaging the threaded connection and ensure optimal screw-nut assembly:

	M3	M4	M5	M6	M8	M10	M12
Aluminium	2,0	2,2	4,5	9,5	17,0	30,0	
Steel	2,5	3,0	5,9	11,0	25,0	49,0	80,0
Stainless Steel	2,5	3,0	5,9	11,0	25,0	49,0	80,0

Recommendations for 8.8 bolts in steel and class A2-70 bolts in stainless steel.

● Mechanical properties - How do we test them?

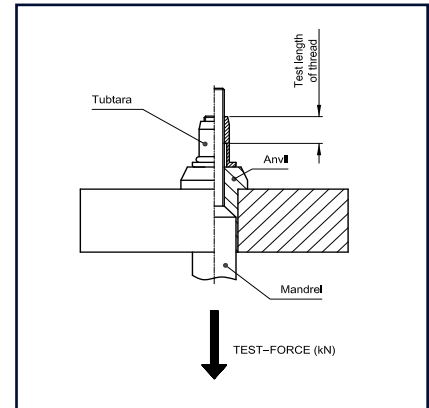
PULL-OUT (thread strength)

Determines the force (kN) required to destroy (pull out) the threads of the **Tubtara**® blind rivet nut, by pulling a screwed-in mandrel towards the head of the **Tubtara**®.

In many cases the mandrel will break before the threads would fail (see ">" in mechanical values table)

The strength towards the opposite direction is $\pm 1/3$ of the pull out strength.

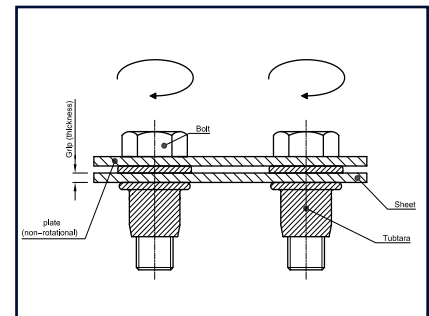
PROOF LOAD test according to ISO 898-2 possible (on request).



MAXIMUM TORQUE

Determines the maximum torque (Nm) that the **Tubtara**® can resist. The Tubtara® are installed in a bolted assembly, using a non-rotational plate.

In most cases the bolt will break before the threads would fail. (see ">" in mechanical values table)

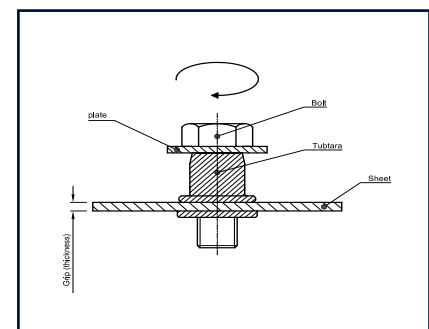


TORQUE-TO-TURN (spin out)

Determines at which couple (Nm) the **Tubtara**® starts to rotate (spin) in the parent material in which it is installed. Tested from the blind side with a tightened bolt and a washer.

In an assembly, required torque-to-turn force will be higher, due to increased clamping pressure and friction resistance after tightening the assembled bolt.

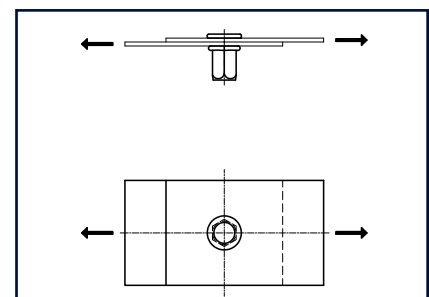
In some cases the bolt will break before the threads would fail. (see ">" in mechanical values table)



SHEAR TEST

Tests the strength (kN) of an installed **Tubtara**® (without assembled bolt) towards shearing. In many cases the **Tubtara**® will be pulled out of the plate without shearing, or shear in the middle between the 2 plates.

Plate material, hardness and how holes are formed (drilled, punched or laser cut) will influence test results.



● Mechanical properties

The tables below show some indicative standard values for Tubtara's with round or hexagonal shank and flat head in first grip for middle sheet thickness within range.

Mechanical reference values

product	material	pull-out	max. torque	torque-to-turn	shear test
		kN	Nm	Nm	kN
Round shank					
M3 UPO 20	Steel C8C	> 5,8	> 2,0	1,8	1,9
	Alu 5052	> 3,1	1,9	0,8	0,6
	SS 304Cu	-	-	-	-
M4 UPO 30	Steel C8C	> 10,8	> 7,5	2,7	2,6
M4 UPO 30	Alu 5052	> 4,5	4,9	1,4	1,1
M4 UPO 20	SS 304Cu	> 11,0	7,1	2,6	3,5
M5 UPO 30	Steel C8C	> 12,0	> 10,0	4,7	3,5
	Alu 5052	> 5,2	6,1	1,5	1,6
	SS 304Cu	> 14,5	> 16,0	3,0	4,8
M6 UPO 30	Steel C8C	> 21,0	> 19,0	7,0	5,0
	Alu 5052	> 10,5	16,0	3,2	2,4
	SS 304Cu	> 27,0	> 22,0	6,8	7,3
M8 UPO 30	Steel C8C	> 33,0	> 50,0	13,0	6,0
	Alu 5052	> 15,0	33,0	5,3	2,9
	SS 304Cu	> 40,0	> 70,0	9,0	9,0
M10 UPO 35	Steel C8C	> 40,0	> 70,0	15,0	8,0
	Alu 5052	> 20,0	39,5	7,0	3,7
	SS 304Cu	> 43,0	> 70,0	8,0	8,5
M10 SPO 35	Steel C8C	> 40,0	> 70,0	15,0	8,0
	Alu 5052	-	-	-	-
	SS 304Cu	> 43,0	> 70,0	13,0	8,4
M12 UPO 40	Steel C8C	> 63,0	> 120,0	32,0	11,5
	Alu 5052	-	-	-	-
	SS 304Cu	> 70,0	> 130,0	25,0	14,0
Hexagonal shank					
M4 HUPO 20	Steel C8C	> 8,8	> 7,5	> 5,5	2,6
	SS 304Cu	> 10,8	> 7,1	6,0	3,7
M5 HUPO 30	Steel C8C	> 12,0	12,0	> 6,5	3,6
	SS 304Cu	> 15,5	15,0	> 9,0	4,8
M6 HUPO 30	Steel C8C	23,0	> 24,5	> 21,0	5,1
	SS 304Cu	24,5	> 23,0	> 22,0	7,2

product	material	pull-out	max. torque	torque-to-turn	shear test
		kN	Nm	Nm	kN
M8 HUPO 30	Steel C8C	32,8	> 50,0	> 30,0	6,6
	SS 304Cu	39,0	> 64,0	32,0	9,4
M10 HSPO 35	Steel C8C	> 40,0	> 70,0	50,0	7,9
	SS 304Cu	> 43,0	> 70,0	> 50,0	10,2
M12 HUPO 40	Steel C8C	> 63,0	> 120,0	68,0	12,5
	SS 304Cu	> 70,0	> 130,0	> 70,0	14,6

- Bolts class 8.8 were used
- > : value will be higher, but test could not be completed due to breakage of bolt or min. value is used as reference
- Steel plate (HRB 55) was used to set the **Tubtara®** (approximately middle of grip range)

Geometrical reference values (open end parts)

For setting force of leakproof parts, see page 100

product	material	setting force	stroke	size bulb forming	length under plate
		kN	mm	mm	mm
Round shank					
M3 UPO 20	Steel C8C	4,0	2,6	6,6 to 6,7	5,9 to 6,1
	Alu 5052	2,3	1,9	6,0 to 6,1	6,4 to 6,6
	SS 304Cu	-	-	-	-
M4 UPO 30	Steel C8C	4,5	2,8	7,8 to 7,9	6,7 to 6,8
M4 UPO 30	Alu 5052	2,2	2,7	7,7 to 7,8	6,8 to 7,0
M4 UPO 20	SS 304Cu	6,0	2,4	7,3 to 7,4	7,6 to 7,8
M5 UPO 30	Steel C8C	6,5	3,8	9,4 to 9,5	7,3 to 7,4
	Alu 5052	3,4	3,6	9,3 to 9,4	7,3 to 7,4
	SS 304Cu	8,0	3,5	8,9 to 9,2	7,3 to 7,5
M6 UPO 30	Steel C8C	9,5	4,0	11,6 to 11,8	9,3 to 9,6
	Alu 5052	4,9	3,3	11,2 to 11,3	10,0 to 10,2
	SS 304Cu	13,0	4,0	11,3 to 11,6	9,6 to 10,0
M8 UPO 30	Steel C8C	12,0	4,0	13,6 to 13,8	10,9 to 11,2
	Alu 5052	5,5	3,8	13,6 to 13,8	11,1 to 11,3
	SS 304Cu	15,4	4,2	13,6 to 13,7	11,3 to 11,6
M10 UPO 35	Steel C8C	14,5	4,4	15,7 to 15,8	14,4 to 14,5
	Alu 5052	8,0	4,7	15,6 to 15,9	14,1 to 14,4
	SS 304Cu	15,5	4,0	14,8 to 15,0	13,6 to 14,0
M10 SPO 35	Steel C8C	15,5	4,5	16,1 to 16,3	15,5 to 15,7
	Alu 5052	-	-	-	-
	SS 304Cu	23,5	4,6	15,9 to 16,1	16,6 to 16,9

product	material	setting force	stroke	size bulb forming	length under plate
		kN	mm	mm	mm
M12 UPO 40	Steel C8C	20,5	6,5	20,8 to 21,0	17,5 to 18,0
	Alu 5052	-	-	-	-
	SS 304Cu	30,0	7,0	20,5 to 21,5	17,0 to 17,5
Hexagonal shank					
M4 HUPO 20	Steel C8C	5,5	2,8	7,6 to 8,3	6,1 to 6,4
	SS 304Cu	5,3	2,5	7,5 to 7,9	7,5 to 7,9
M5 HUPO 30	Steel C8C	6,1	4,0	9,8 to 10,4	7,8 to 8,2
	SS 304Cu	7,2	3,3	9,1 to 9,5	7,1 to 7,3
M6 HUPO 30	Steel C8C	11,5	3,6	11,4 to 12,5	9,7 to 10,1
	SS 304Cu	10,0	4,3	11,9 to 12,3	9,0 to 9,3
M8 HUPO 30	Steel C8C	14,0	4,6	14,3 to 15,4	10,7 to 11,1
	SS 304Cu	14,0	4,5	14,0 to 14,5	10,7 to 11,1
M10 HSPO 35	Steel C8C	18,0	5,5	17,5 to 18,6	14,4 to 14,7
	SS 304Cu	19,0	6,0	17,0 to 17,6	16,0 to 16,7
M12 HUPO 40	Steel C8C	21,0	6,6	20,7 to 21,6	15,0 to 16,1
	SS 304Cu	25,0	7,0	21,0 to 22,0	17,0 to 17,5

Length under plate of open end parts: values obtained after setting.

To obtain the length under the plate after setting of **closed end parts**, you can add the following sizes to the above-mentioned:

Steel and aluminium (mm)	
M3	3,5
M4	4,5
M5	6,0
M6	7,0
M8	8,0
M10	10,0
M12	10,0

Stainless steel (mm)	
M4	4,5
M5	6,0
M6	7,0
M8	8,0
M10	7,0
M12	10,0

In some cases the real length will be shorter. All dimensions can be checked on the technical data sheets in our catalogue.

In practice, variations may result from differing setting and environmental conditions. The values mentioned can be used as a reference and optimised by using additional features. We strongly advise customers to perform their own tests in the correct material thickness and specific application.

Grip range influences

The following values can be used as a guidance for other versions:

For setting force of leakproof parts, see page 100

		ALUMINIUM			STEEL			STAINLESS STEEL 304 + 316		
TYPE	Grip	SETTING FORCE	STROKE	PULL-OUT	SETTING FORCE	STROKE	PULL-OUT	SETTING FORCE	STROKE	PULL-OUT
	mm	N	mm	N	N	mm	N	N	mm	N
M3 UPO 20	1,0	2000	2,0	3750	4000	2,5	> 5000			
	2,0	2600	1,5	3280	4750	2,0	> 5000			
M3 UPO 30	2,0	1850	1,5	3900	3700	2,5	> 5000			
	3,0	2050	1,0	3968	4750	2,0	> 5000			
M4 UPO 20	1,0							4900	2,0	> 9000
	2,0							5500	1,5	> 9000
M4 UPO 30	1,0	2100	3,0	5170	4300	2,5	> 8000			
	3,0	2430	1,0	4330	5650	1,5	> 8000			
M4 UPO 35	2,0							5500	2,6	> 9000
	3,5							6000	1,7	> 9000
M4 UPO 45	3,0	2050	2,8	4838	4200	2,5	> 8000			
	4,5	2875	1,5	4421	5000	1,5	> 8000			
M5 UPO 30	1,0	3050	3,5	5500	6150	3,5	12240	7500	3,0	> 15000
	3,0	3650	2,0	5000	7200	2,5	9600	8500	1,7	> 15000
M5 UPO 50	3,0							7500	4,0	> 15000
	5,0							8500	2,0	> 15000
M5 UPO 55	3,0	3000	3,5	6450	5750	4,0	11800			
	5,5	4300	1,5	5525	9650	2,0	10300			
M6 UPO 30	1,0	4500	3,0	11000	9400	4,0	21200	11850	4,0	> 24000
	3,0	5750	2,0	10000	12000	3,0	18500	14460	3,0	> 24000
M6 UPO 50	3,0							13500	4,5	> 24000
	5,0							15000	2,8	> 24000
M6 UPO 55	3,0	4500	3,5	11000	9000	3,5	22700			
	5,5	6100	1,8	10000	11000	2,0	19700			
M6 UPO 80	5,5	4950	4,7	9160	8700	4,0	19900			
	8,0	5400	2,0	8200	11750	2,5	17200			
M8 UPO 30	1,0	5000	3,0	14900	11500	4,0	30400	14500	4,2	> 41000
	3,0	6600	2,0	14000	13750	2,5	26100	18000	2,8	> 41000
M8 UPO 55	3,0	5400	4,0	15500	11500	4,0	32500	14500	5,5	> 41000
	5,5	7400	2,0	11200	15500	2,5	31900	18500	3,0	> 41000

		ALUMINIUM			STEEL			STAINLESS STEEL 304 + 316		
TYPE	Grip	SETTING FORCE	STROKE	PULL-OUT	SETTING FORCE	STROKE	PULL-OUT	SETTING FORCE	STROKE	PULL-OUT
	mm	N	mm	N	N	mm	N	N	mm	N
M8 UPO 80	5,5	5900	4,0	16100	10700	4,0	32400			
	8,0	7850	2,0	13600	14700	2,5	26500			
M10 UPO 30	1,0							14500	3,5	> 45000
	3,0							18500	2,5	> 45000
M10 UPO 35	1,0	6750	4,0	22100	13600	4,5	39600			
	3,5	9000	2,5	17700	17000	2,5	32400			
M10 UPO 50	3,0							14500	3,5	> 39500
	5,0							18500	2,5	> 37000
M10 UPO 60	3,5	9000	5,0	25250	14900	4,0	42300			
	6,0	13000	3,0	23000	17900	2,5	31700			
M10 SPO 35	1,0				13500	4,5	40500	19500	4,5	> 45000
	3,5				16100	2,5	36100	26500	3,5	> 45000
M10 SPO 60	3,5				15900	5,5	48000	21000	5,5	> 45000
	6,0				20400	3,0	37500	25000	3,5	> 45000
M12 UPO 40	1,0				19500	5,5	> 50000	26000	8,0	> 75000
	4,0				25000	4,0	> 50000	34000	5,0	> 70000
M12 UPO 70	4,0				19500	5,5	> 50000	28000	8,0	> 75000
	7,0				25000	4,0	> 50000	37000	5,0	> 70000

Setting Force or Upset Load: Force (in Newton) necessary to deform the **Tubtara®** referred to in an adequate way.

Upset Stroke: Stroke (in mm) that should be set on the setting tool to give the **Tubtara®** referred to, the adequate deformation.

The mentioned values are average reference values only.

We strongly advise the customer to do his own tests in the proper material thickness and specific application.

Semi-hex parts have a setting force which is 10 to 15% lower than full hex or round parts but have the same fixation strength.

Check the installation tool's max. setting capacity, especially for M10 and M12.

High Strength Materials

- 23MnB4: +20% higher mechanical strength compared to C8C
- AlMg3,5: +20% higher mechanical strength compared to AlMg2,5

● HX/KX Tubtara® with O-ring seal under the head

Information about NBR O-Ring & compatibility with other products					
Shore Hardness	70	Aromatic Hydrocarbons	x	lye	x
Hydraulic fluids	xxxx	Aliphatic Hydrocarbons	xxx	Chlorinated Hydrocarbons	x
Fuel Oils	xx	Water under 80°C	xxx	Ozone & Sunlight	x
Organic Oils	xxxx	Water over 80°C	x	Temperature range °C	-30 +120
Brake Fluid	-	Alcohols	xx	Electr. properties	-
Silicone & Grease	xx	Ketone	-	Compression sets	xxx
Gasoline	xxx	Acid (concentrated)	-	Flame resistance	No
Aromatic fluids up to 50 %	xx	Acid (diluted)	x	Kerosene	xxx

Key: xxxx very good --> x satisfactory - not suitable.

Seals in other materials like EPDM on request. Store in a dry and dark place (all boxes are marked)

● (H)DPX/HDKX Tubtara® with applied (chemical) seal under the head

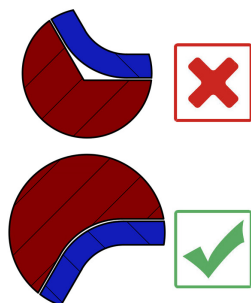
Several seal options are possible for our (H)DPX and HDKX series, depending on head shape and application requirements. For P (flat head) parts, we advise precote® 200 or Rimlex® 620B, or Rimlex® 310 for high temperature applications.

Our HDKX series with low profile head, feature a thin precote® 5 or 15 acrylate seal, but note that these require specific hole preparation to obtain a leakproof assembly (see below).

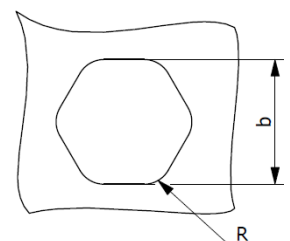
These seals are resistant to many automotive oils, antifreeze and transmission fluids, and ensure a leakproof assembly, if correctly installed. Technical data sheets are available on request.

● Hole preparation for semi-hex HDKX + Precote® seal

To obtain an IP x7 leakproof assembly with semi-hex (stainless steel) HDKX series, the hexagonal holes need to be formed with a radius:



Radius hexagonal hole		
THREAD	b ^{+0,1}	R ^{+/-0,05}
M4	6,0	1,6
M5	7,0	1,8
M6	9,0	2,2
M8	11,0	2,7
M10	13,0	2,8

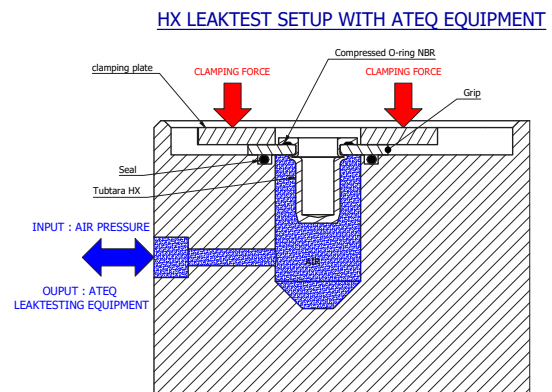
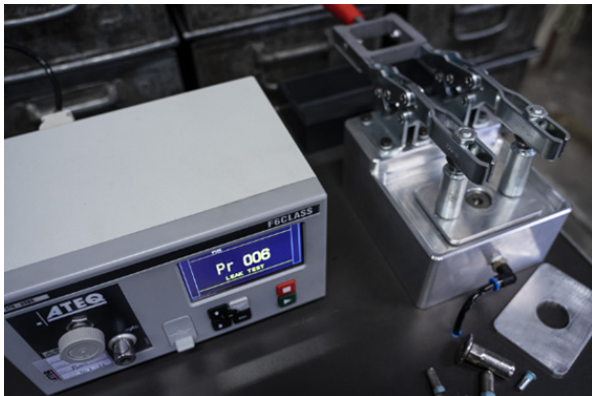


● Testing of leakproof **Tubtara®** rivet nuts

Together with ATEQ we developed a reliable test method for our watertight blind rivet nuts. We designed a housing, in which a test plate with an installed sealed rivet nut (no torque applied), is mounted and tightly clamped. The housing is connected to leak-detection equipment, generating a dedicated air pressure during a certain amount of time and for a specific part volume. Any decrease in pressure, however small, will be detected and compared to pre-defined parameters, which are calculated and correlated to verify that the rivet nut-plate assembly is in fact leaktight.

Following IEC 60529, an IPx7 classification means immersion for up to 30min. at a depth between 15 – 100cm. 1m water column = 100mbar, at DEJOND we test at 200mbar.

With the ATEQ leak testing equipment we measure a pressure drop ΔP in Pa, which can be converted into a leak ($\text{cm}^3/\text{min.}$ or $\text{ml}/\text{min.}$) where air is allowed to pass through an opening but no water yet, until the surface tension of water is broken. The pressure drop threshold determination is a confidential ATEQ algorithm.



● Setting forces for leakproof parts HX / KX, (H)DPX and HDKX

For optimal seal compression and UV-light shielding, we recommend a 10-20% higher setting force to ensure a leak-tight assembly. Below reference values can vary depending on size, shape and seal material.

steel zinktop				
recommended setting force (kN)	HX/KX	HDPX	DPX	HDKX
thread size				
M4	-	7	9	-
M5	9,5	9,5	10	9,5
M6	16	15	15,5	16
M8	20	18	20	20
M10	24	22,5	24	24
M12	33			

stainless steel 304Cu				
recommended setting force (kN)	HX/KX	HDPX	DPX	HDKX
thread size				
M4	-	7,5	7,8	-
M5	11	10	11	11
M6	20	16	16,5	20
M8	24	19	21	24
M10	30	31	29	30
M12	42			

● Conversion table

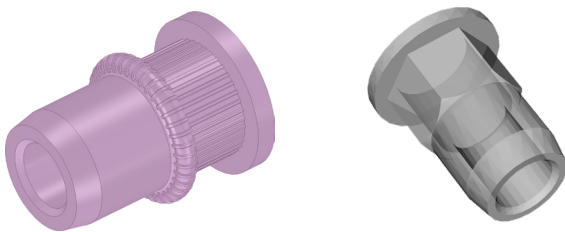
Multiply	by	To get
millimeter (mm)	.03937	inch (in)
inch (in)	25,4	millimeter (mm)
kilogram (kg)	2,2046	pound (lb)
pound (lb)	0,4536	kilogram (kg)
Newton (N)	0,2248	pound-force (lbf)
Newton metre (Nm)	8,8507	pound-inch (Lb-In)

3D drawings

See our website www.dejondfastening.com and click on '3D drawings'

3D and 2D drawings available for all **Tubtara®** stainless steel blind rivet nuts:

- downloadable in installed or uninstalled condition
- user input option for exact grip
- multiple formats supported (DWG, STP, SolidWorks, Autodesk, Spaceclaim, AutoCAD, etc.)
- ability to insert **Tubtara®** CAD drawings directly into the product design



External website hosted by "Traceparts":

www.traceparts.com/els/dejond

Quality

Statements on Reach / RoHS / Conflict Minerals:

- see our website www.dejondfastening.com
- contact our customer service for updated information.

EN 9100 certified (in audit)

Dejond Fastening Systems and **Tubtara®** blind rivet nuts have set their quality policy in stone in a quality management system. On the request of the aviation industry, in 2014 we upgraded the existing ISO 9001 quality management system to the higher EN 9100 level.

Currently, an audit is underway for a new EN 9100 certification for our **Tubtara®** blind rivet nuts, fastening systems, and their fitting appliances. This is required by the certification body (Cofac) due to the transfer of all activities of Dejond Fastening into a new company following the split of Dejond nv. The **Tubtara®** production site in Wilrijk, our production processes and employees, and the quality management system remain unchanged; only the postal address and VAT number will change. This certification helps us meet the most stringent of requirements set by our customers, while strengthening our position in the aviation industry.

We continuously invest in quality controls and audits. We use the findings to assess the effectiveness of our system and identify opportunities for improvement.

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General conditions available on our website www.dejondfastening.com

Any dispute will fall within the exclusive jurisdiction of the courts of Antwerp

Tubtara® blind rivet nuts manufactured by Dejond Fastening, a Bossard Company

A leading fastener brand because of:

- EN 9100 certification, approved for aerospace and defence (in audit)
- Excellent and consistent quality thanks to a highly controlled production process
- In-house R&D team providing profound technical support
- Engagement to think along with the customer
- Product developments and customised solutions for every application
- Reliable production lead times
- Worldwide distributor network of dedicated fastener specialists
- Pro-active and personalised customer service and tech sales support
- High stock levels ensuring quick deliveries
- Specialised in cold formed stainless steel and watertight solutions
- Made in Belgium since 1954



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