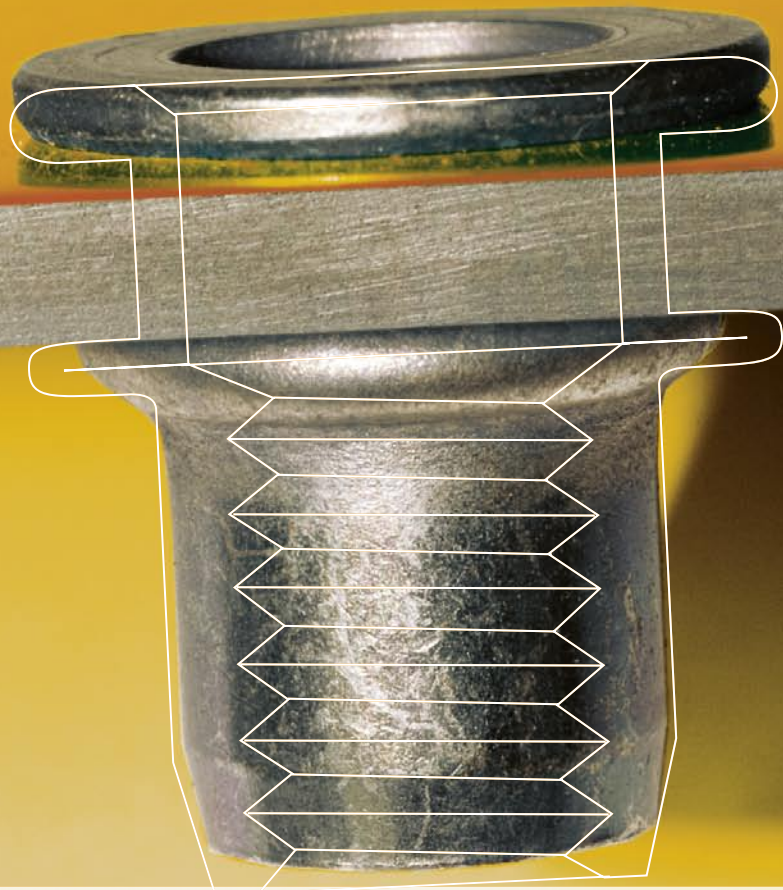




Blind Threaded Inserts



Since 1922



Avdel®

Since 1936

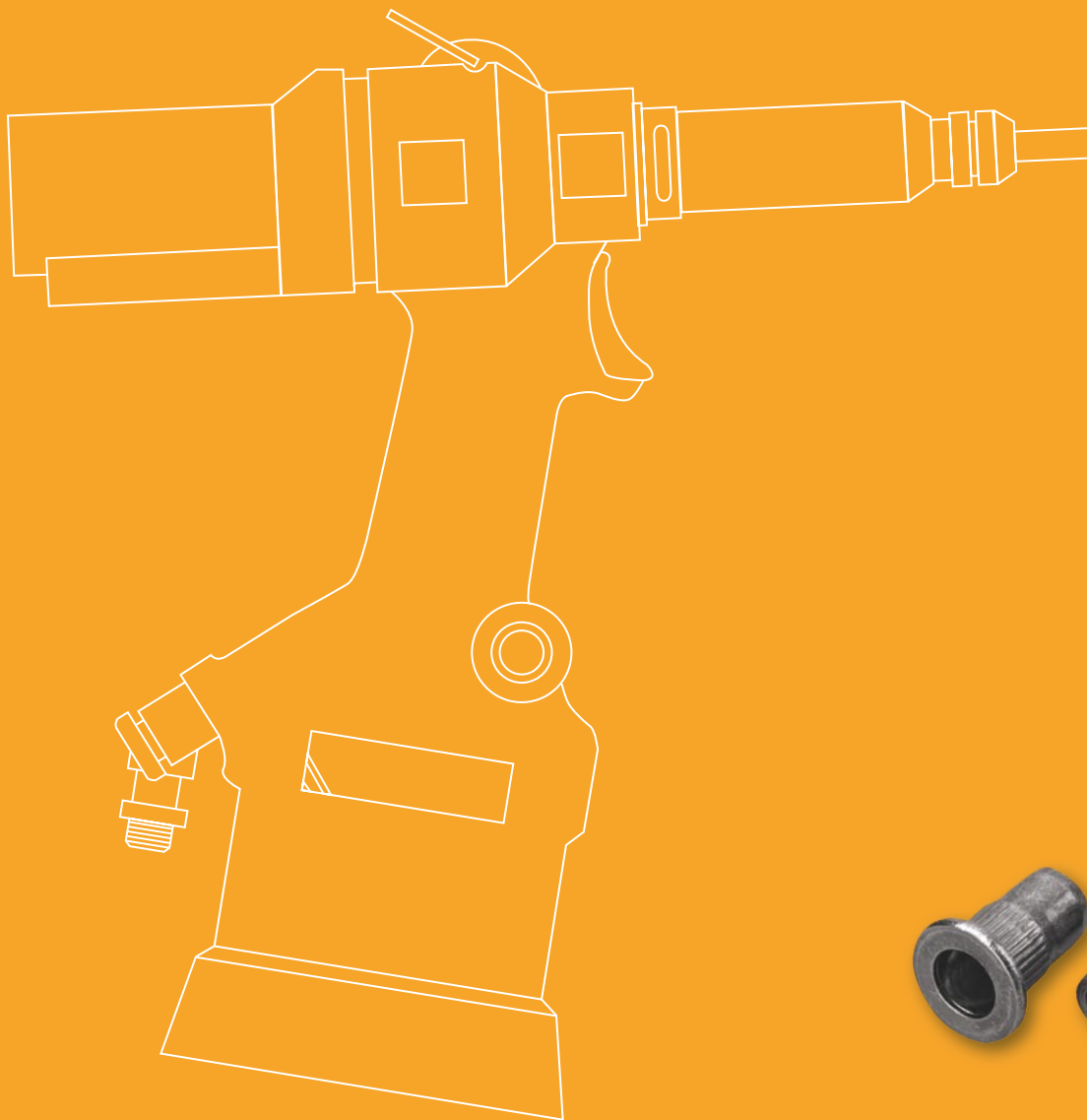
iForm™

2010



infastech™

Our Technology, Your Success



Easily adaptable for your materials and production processes

Everywhere that you need to join components reliably and efficiently Avdel® offers intelligent fastening systems and the most suitable installation tools and assembly stations.

Wherever you need high quality, load bearing threads in thin materials, the Avdel® Blind Threaded Insert System offers the ideal solution.

Quickly and reliably installed without rework or damage to the parent application, even with painted sheet materials and tubes where there is no blind side access.

Avdel® threaded inserts are most commonly used in the automotive, vehicle, electronics chassis manufacturing, equipment manufacturing and shipbuilding industries.

The wide variety of Avdel® threaded inserts provides perfect engineering results and economic solutions in every application.

Together with our customers we develop blind fastening systems that simplify your production processes and improve the quality of your products. We see ourselves not only as a provider of fasteners, tools and assembly systems, but also as a system and development partner with the objective of helping our customers improve their assembly performance.

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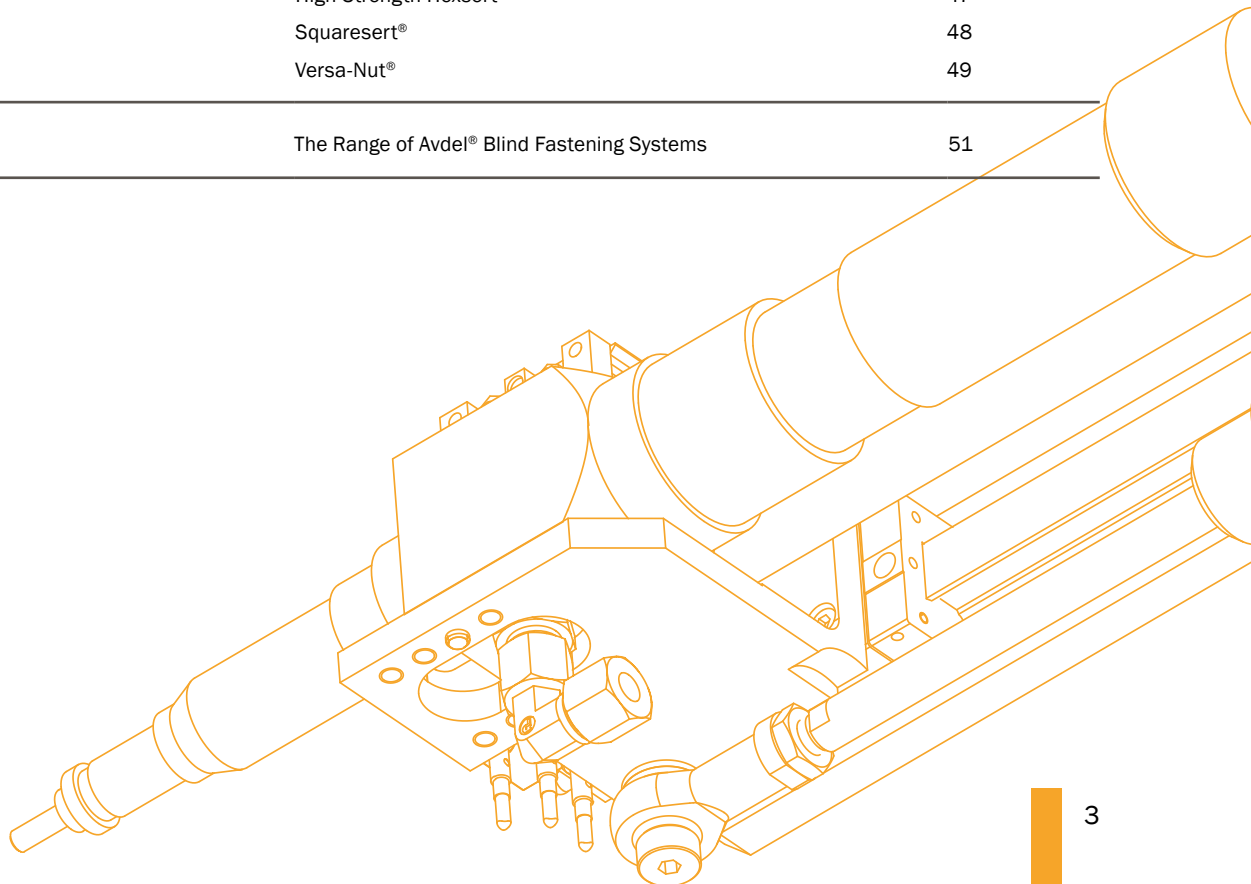
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Avdel® Threaded Inserts

Avdel® threaded inserts and installation tools provide a quick, reliable and low cost system of inserting high quality, load bearing threads in thin gauge materials. Avdel® threaded inserts offer many benefits over nuts and bolts, weld nuts, self-tapping screws and pressed inserts.

Benefits of Assembly

Blind sided assembly

Access is needed to only one side of the workpiece. This results in increased speed of assembly, lower assembly costs, reduced operator error and is ideal for assembly of box or closed sections.

Purely mechanical fastening

Avdel® threaded inserts can be used to join dissimilar materials. They avoid damage of surface coatings and thus can be installed in pre- as well as in post finished applications. The workpiece is not affected by a welding process.

Designed for rapid rate of installation

The typical assembly cycle of 3 seconds reduces assembly time and costs.

Designed for automation

Avdel® threaded inserts can be installed fully automatically resulting in a high speed and precision assembly. The set up costs are lower compared to welding equipment.

Forms a permanent fixture in material

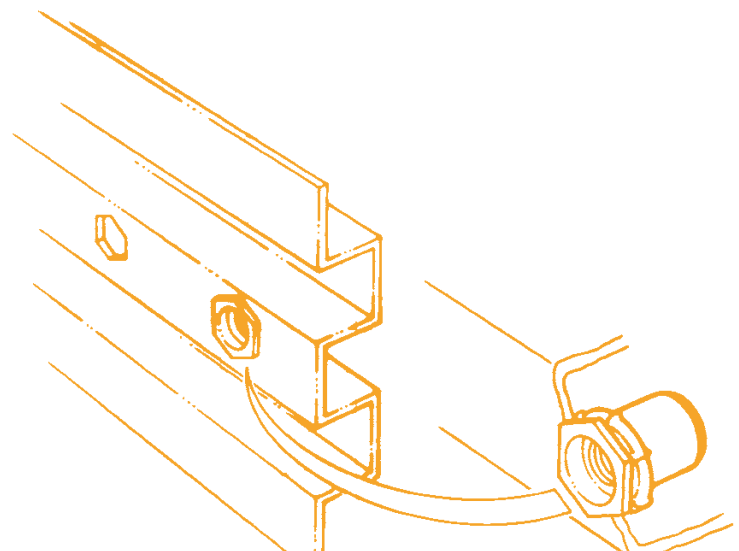
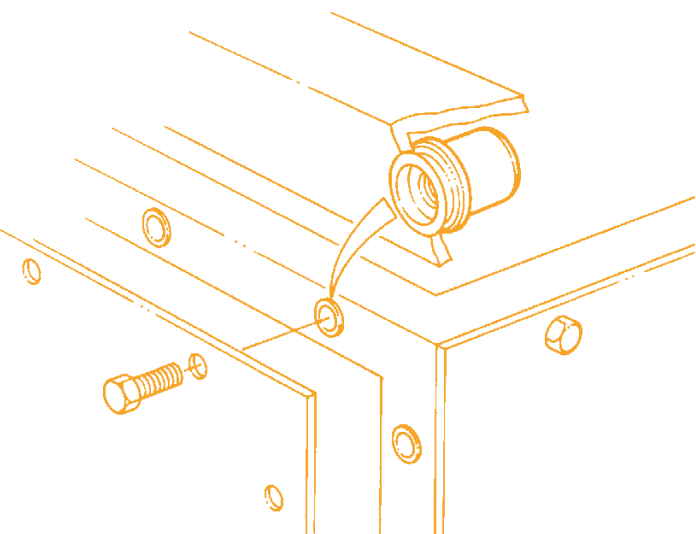
Avdel® threaded inserts deliver a vibration resistant joint without requiring maintenance.

Multi-functional fastener

Threaded inserts feature multi functions: they provide a female thread in sheet while giving the opportunity to clamp two or more sheets at the same time; can act as a spacer – resulting in fewer components required.

Suitable for a wide range of installation tools

The facilities of installation range from hand tools for small batch and repair work and pneumatic tools for medium volume up to full automation for in-line assembly.



Benefits of Assembly

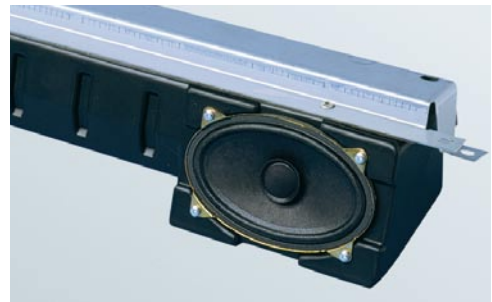
Automotive

- Clamps securely into parent material giving high resistance to vibration and attendant loosening of joint
- Ideal for joining dissimilar materials (e.g. aluminium to plastic sections) in addition to providing a female thread
- Particularly suitable for installing threads into closed sections where there is no access to blind side
- Available in high corrosion resistant coatings such as zinc-nickel to conform to increasing corrosion warranty periods
- Lower cost and less hazardous alternative to weld nuts, with far less damage to parent material
- Can easily be installed after paint finish is applied to avoid clogging threads, unlike weld nuts
- Quick and flexible placement possible in confined areas using hand tools
- Will not deform, distort or damage parent material, even if this is painted prior to installation
- Colour of insert can be modified to match parent material or improve appearance of assembly

Electronic and Electrical Equipment

- Closed end inserts prevent ingress of water and foreign bodies into electrical circuits
- No risk of nuts coming loose or falling on to circuitry
- Inserts can act as an earthing point
- Forms permanent fixing in parent material allowing easier panel removal and replacement compared to nut and bolt fixings
- Multi-functionality of thread, rivet and flange-spacer combined, offers space and weight advantages over other attachment methods

Speaker systems



Process Automation

- Ease of hole entry afforded by the reduced tail end diameter of Avdel inserts improves suitability for automatic placing
- Autosert® machines can place up to 20 inserts per minute using a single placing head
- Automation improves control of placing, removing risk of operator error
- Ideal for labour intensive and highly repetitive placing sequences
- Autosert® machines are capable of inserting several inserts simultaneously offering a significant reduction in process time

4 Autosert® automated assembly systems



Design Features and Benefits

Design Feature	Design Benefits	Typical Applications
Splined Body 	- Improves torque-to-turn resistance in softer materials such as aluminium when compared to plain body inserts - Improved electrical continuity in sheet metal fixings	- Soft materials such as aluminium, magnesium, plastics, composites and wood - Earthing points in electrical assemblies
Hexagonal Body 	Hexagonal section and bore improves torque-to-turn in components via form lock when compared to round and splined inserts	- Automotive chassis components requiring high resistance to turning under vibrating loads - Where high bolt removal torque is required during servicing (e.g. switchgear cabinets) - Thermal applications prone to high expansion and contraction in parent material
Square Body 	- Square section and bore improves torque-to-turn in components via form lock due to even greater contact surface compared to round and splined inserts - Increased hole punch life compared to hexagonal geometries	- Automotive body mountings requiring maximum turning resistance - Soft material constructions, particularly for plastics, composites and soft sheet metals
Large Flange 	- Provides large load bearing surface - Reinforces hole, preventing push through - Potential to use flange as a spacer - Can be used with underhead seal (e.g. Rimlex®)	- Load bearing applications in thin sheet and soft material applications - Mountings where high push-out resistance is required (e.g. adjustable foot mountings)
Low Profile 	Near flush installation and clamp up	Flush fitting, thin sheet, low load bearing applications (e.g. domestic appliances and coach building)
Countersunk 	Flush installation and secure clamp up	Flush fitting, thin sheet, low load bearing applications (e.g. domestic appliances and coach building)
Closed End 	- Prevents ingress of dirt and fluids into thread - Prevents ingress of water and foreign bodies into electrical circuits	- Electrical assemblies to prevent foreign bodies being inserted through open thread - Load bearing sections to avoid thread exposure - With underhead seal (Rimlex®) to prevent ingress of fluids and dirt into protected environment (e.g. fuel tank)
Reduced Tail End Diameter 	- Ease of hole entry - Particularly suited for automation	- Automated feed systems - Rapid manual assembly
Increased Thread Strength 	- Improves the maximum torque capability by typically 100 % compared to standard Hexsert®. No risk of thread-stripping insert, avoiding expensive and time consuming re-work - Potential to downsize insert and screw diameter for a given joint clamp load	- Structural automotive fixings into closed aluminium extrusions and hydro-formed steel tubes - High strength threads into thin, hardened steel pressings unsuited to welding - Any application where routine screw removal and re-tightening without torque control is likely
Slotted Body 	Forms four folded legs providing an extra large blind side bearing area	Use with composites and plastics, reducing risk of cracking around the hole

Customised Designs

Modified Feature

Typical Uses and Benefits

Flange Diameter



- Greater diameter increases push-out force and hole reinforcement in soft and thin gauge metals

Flange Thickness



- Thicker flange acts as a spacer and provides a slight increase in push-out force

Nut Length



- Greater length acts as a blind side spacer and increases thread strength

Body Diameter



- Greater body diameter increases thread strength, torque-to-turn and push-out force
- Particularly suitable where the designer wishes to retain a large hole size for a small thread

Grip Range



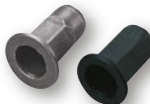
- Increase in grip is required to accommodate thick wall constructions such as those using aluminium, magnesium, plastics and composites

Special Cold Formed Products



- In high volumes, these can offer significant cost savings compared to equivalent machined components
- Designs possible to very high tolerances for use with your own tooling

Coatings



- Special finishes can improve corrosion resistance, appearance and colour match with parent materials

Surface Hardening



- Treatments such as nitriding increase thread torque strength

Closed Ends and Underhead Seals



- Provides maximum protection against the ingress of moisture and dirt

Thread Forms



- We can offer a wide range of metric and imperial thread forms to suit your application, including UNC, UNF, BSW, BSF, BA and fine series metric threads

Selecting a Threaded Insert

Selecting a threaded insert is a simple process. The six factors detailed below are designed to help you identify an insert suitable for your application:

Thread size

Avdel® threaded inserts range from M3 to M12 thread sizes dependent upon the insert. Imperial threads are also available – please refer to page 10.

Grip range

The threaded insert should be selected to ensure that the thicknesses of the parent material(s) falls within the grip range.

Hole size

This is specified on the relevant technical data page for the insert. Allowance for coating the parent material should be made to avoid an undersized hole.

Torque-to-turn

Resistance is dependent upon the body shape and increases in the series: round, splined, hexagonal and square. Please refer to page 9 for further information.

Special features

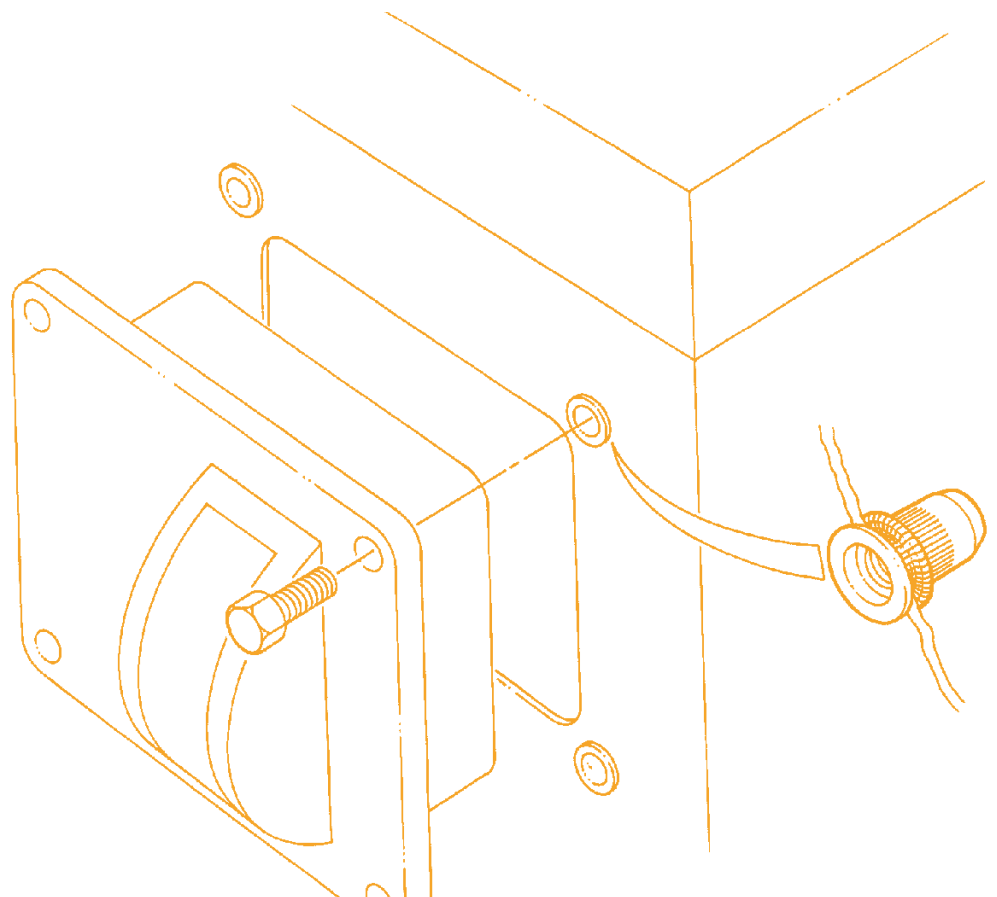
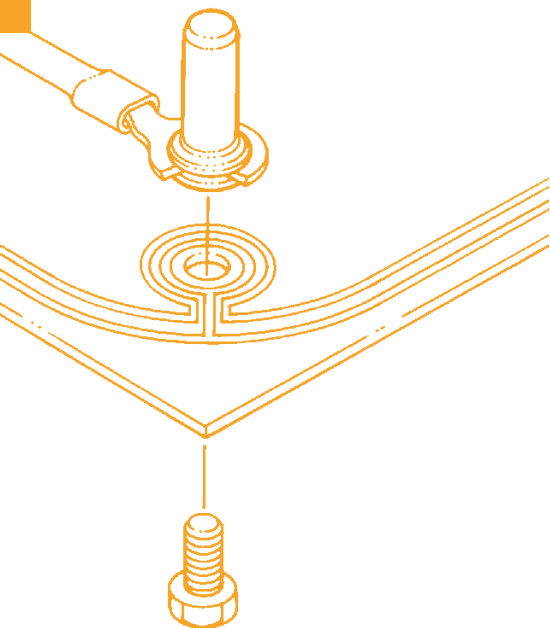
Additional features such as low profile, large flange, closed end and countersunk are available within the standard range of products. Please refer to page 7 for details on special features and finishes.

Corrosion resistance

The selection of the material type and coating of the threaded insert should be made on the basis of the corrosion resistance required.

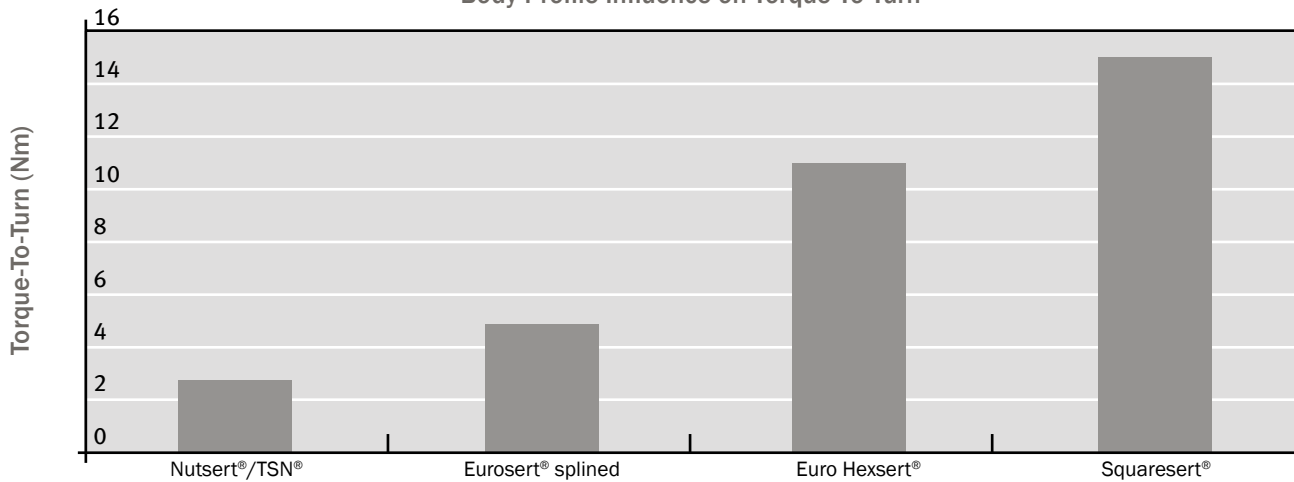
Important Information

The information on this page should be used in conjunction with the technical data available on our website www.avdel-global.com where you can also find additional information about corrosion, safety and RoHS.

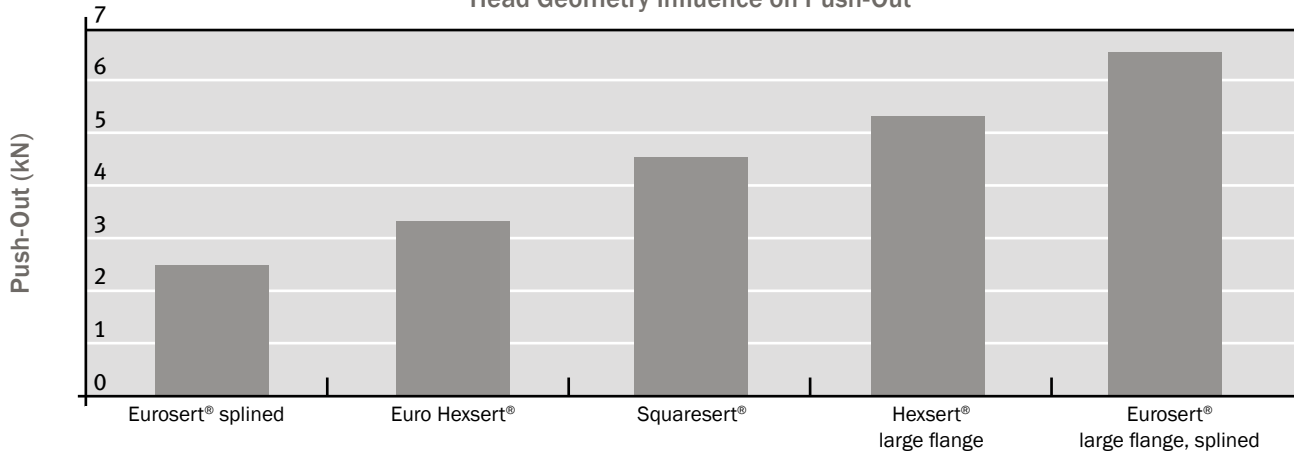


Design Parameters

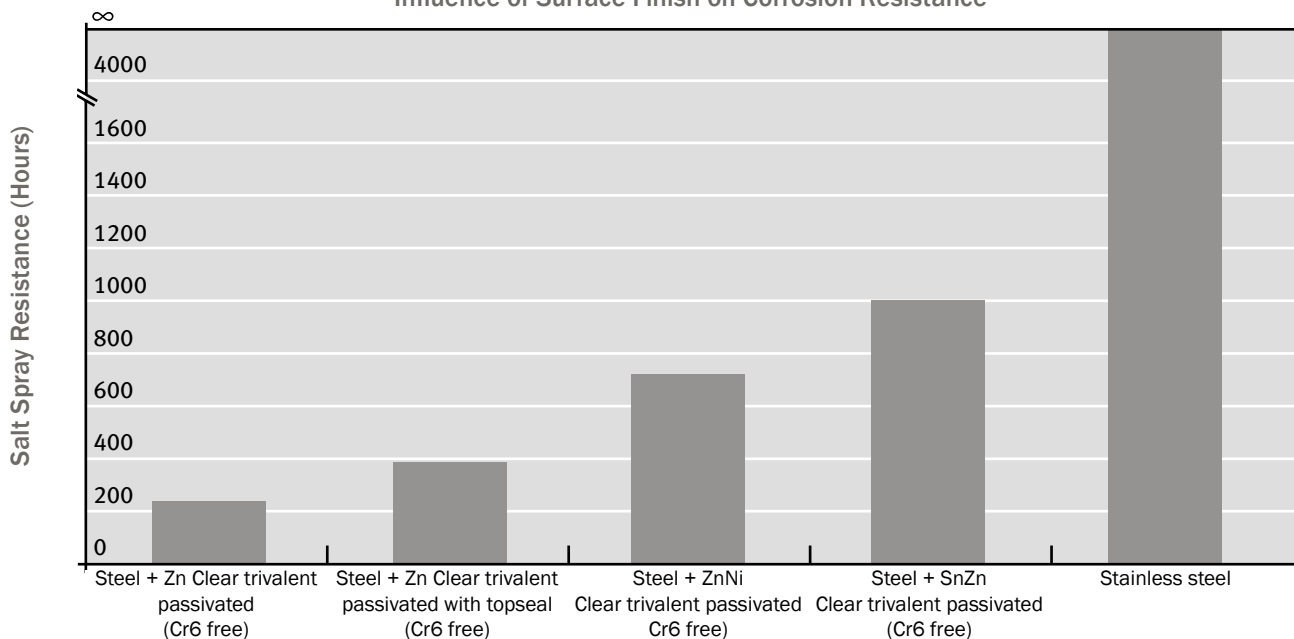
Body Profile Influence on Torque-To-Turn



Head Geometry Influence on Push-Out



Influence of Surface Finish on Corrosion Resistance



The above table is based on data derived from Salt Spray tests in accordance with ASTM B 117 using 5% sodium chloride fog. The ranking of surface finishes shown in the above table has been obtained from these tests. These are carried out under standard conditions using sodium chloride solution fog as a means of comparing the potential corrosion resistance. The conditions in all other applications are often different and could affect the comparative ranking. In particular, if dissimilar metals are involved the subsequent galvanic action can influence the rate and nature of corrosion. The ranking shown is based on the time of appearance of red rust but the same overall pattern is true for time of onset of white rust. Salt Spray tests are less applicable to stainless steel, but its inclusion in the table serves to illustrate its increased inherent corrosion resistance. We would be happy to discuss the requirements for your particular application and to assist you in selecting the most appropriate finish.

Selection Guide

This table is designed as a guide to help you select the most suitable Avdel® threaded insert for your particular application. Full technical and performance data for each threaded insert can be found on our website or contact your local Avdel representative.

Product Range	Body Shape	Material	Design Features							Hole Sizes				Thread Size										Page No.																		
		Aluminium	Steel	Stainless Steel	Closed End	Open End	Large Flange	Low Profile	Countersunk	Metric	Imperial	M3	M4	M5	M6	M8	M10	M12	These data sheets will be available on our website www.avdel-global.com										Series No.	Description	Data Sheet											
Eurosert®		•			•	•				•		•	•	•	•	•	•																		9408	11	26					
			•		•		•			•			•	•																					39002		27					
		•			•	•		•			•			•	•	•	•	•																			39006	28				
Nutsert®/TSN®				•		•		•			•	•	•	•	•	•	•																				9468	12	29			
		•				•		•			•	•	•	•	•	•	•	•																			9658		30			
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		•			•		•				•			•	•	•	•	•																			FS58		32			
		•				•	•				•		•	•	•	•	•	•	•																				FW78	33		
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		•				•		•			•			•	•	•	•	•																					GM17	35		
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		•				•	•	•				•																													9654	*
		•				•	•	•				•																													9655	*
		•				•	•	•				•																														9665
DK/DL		•				•		•			•	•	•	•	•	•	•																							DKA	13	38
		•				•		•			•		•	•	•	•	•	•																					DKS	39		
		•				•	•				•		•	•	•	•	•	•																					DLA	40		
		•				•	•				•		•	•	•	•	•	•																					DLS	41		
Hexsert®/ Euro Hexsert®		•				•	•			•			•	•	•	•	•	•																						9498	14	42
		•				•		•			•	•	•	•	•	•	•																							9688		43
		•				•		•			•			•	•	•	•	•																						39101		44
		•	•			•		•			•					•																								39102		45
		•		•		•		•			•					•	•																							49141		46
High Strength Hexsert®			•			•	•			•						•	•	•																					39301	15	47	
Squaresert®			•			•	•			•				•		•	•																						GK08	16	48	
Versa-Nut®			•			•	•			•			•	•	•	•																								VN21	17	49

*These data sheets will be available on our website www.avdel-global.com

Our policy is one of continuous product development and improvement and we reserve the right to change the specification of any product without prior notice.



Steel inserts designed to provide load bearing threads in thin sheet materials. For hard metric hole sizes.



Key features and benefits

- Can be used in very thin sheet materials from 0.25mm (0.01")
- Double diameter body and lead-in chamfer provide easy insertion into hole
- Various platings available to increase corrosion resistance
- Splined body improves torque-to-turn resistance in softer materials such as aluminium when compared to plain body inserts and improves electrical continuity in sheet metal fixings
- Low profile head allows near flush fit to application
- Large flange head provides a load bearing surface and reinforces the hole to prevent push-out. Can be used as a spacer and can be supplied with an underhead seal.
- Can be used with hand tools, pneumatic tools and fully automated machines to suit a wide range of assembly methods

Specifications

Thread Sizes:

M3 – M10

Material:

Steel

Headforms:

Low profile and large flange

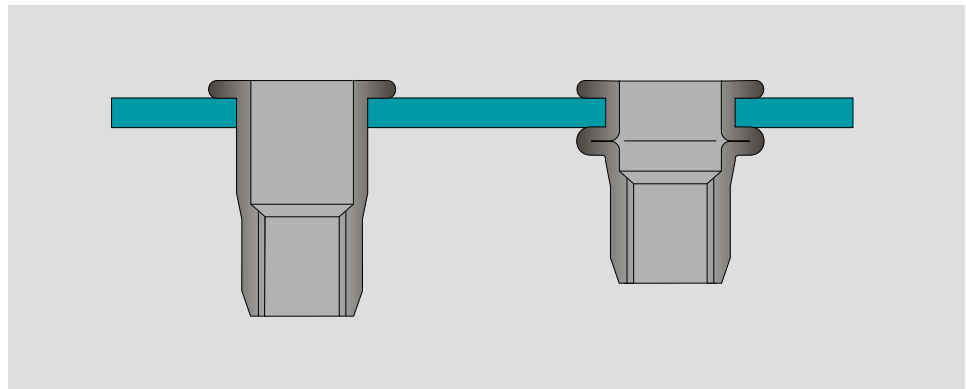
Body:

Round, with or without splines

Hole Size:

Metric

Typical placing sequence



Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Automotive
- Electrical engineering
- Electronic components
- Sheet metal
- Domestic appliances
- General light fabrication



Nutsert[®]/TSN[®]

Steel, stainless steel or aluminium inserts designed to provide load bearing threads in thin sheet materials.



Key features and benefits

- Can be used in very thin sheet materials from 0.50mm (0.02")
- Various platings available to increase the corrosion resistance
- Low profile head allows near flush fit to application
- Large flange head provides a load bearing surface and reinforces the hole to prevent push-out. Can be used as a spacer and can be supplied with an under-head seal
- Closed end prevents the ingress of dirt and fluids into thread and electrical circuits
- Can be used with hand tools, pneumatic tools and fully automated machines to suit a wide range of assembly methods

Specifications

Thread Sizes:

M3 – M10, 6-32 UNC,
8-32 UNC, 10-24 UNC,
1/4-20 UNC, 5/16-18 UNC,
3/8-16 UNC

Materials:

Steel, stainless steel,
aluminium

Headforms:

Low profile and large flange

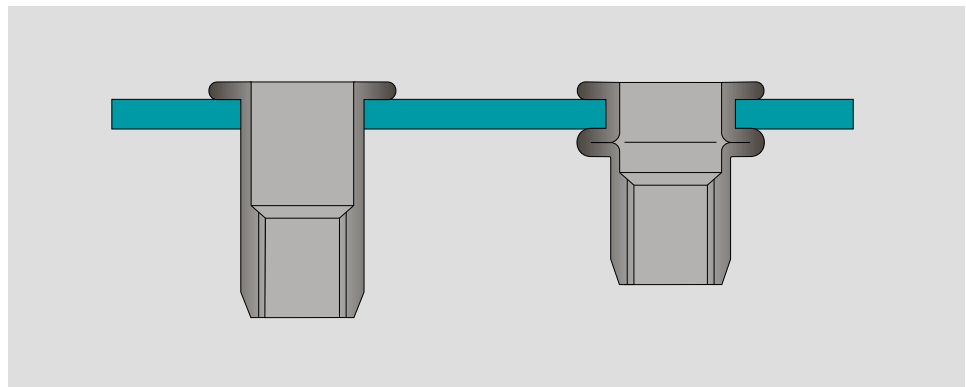
Option:

Closed end

Hole Size:

Mainly imperial. Soft metric
for large flange options

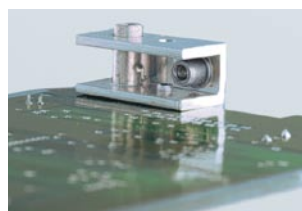
Typical placing sequence



Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Automotive
- Electrical engineering
- Electronic components
- Sheet metal
- Domestic appliances
- General light fabrication





Steel or aluminium inserts designed to provide load bearing threads in thin sheet materials.



Key features and benefits

- Can be used in very thin sheet materials from 0.50mm (0.02")
- Wide grip range provides a placing capability in material thickness ranging from 0.5 mm (.02") up to 7.9 mm (.312")
- Splined body provides increased torque-to-turn resistance over conventional non-splined inserts
- Low profile head allows near flush seating without special hole preparation
- Large flange version provides a large bearing surface which increases push-out performance
- Reduced tail end diameter offers ease of hole entry

Specifications

Thread Sizes:

M4 – M10, 6-32 UNC,
8-32 UNC, 10-24 UNC,
10-32 UNF, 1/4-20 UNC,
1/4-28 UNF, 5/16-18 UNC,
5/16-24 UNF, 3/8-16 UNC,
3/8-24 UNF

Materials:

Steel, aluminium

Headforms:

Low profile and large
flange

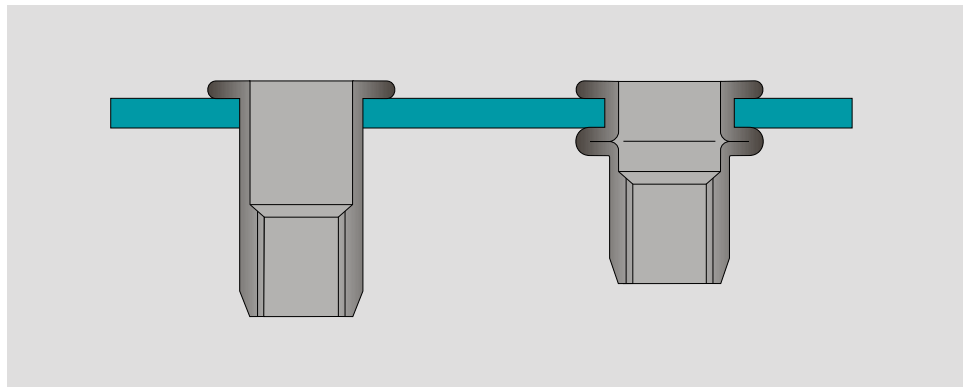
Body:

Splined

Hole Size:

Imperial

Typical placing sequence



Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

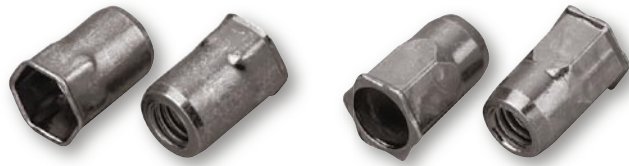
- Automotive
- Electrical engineering
- Sheet metal
- Domestic appliances
- General light fabrication



Hexsert[®] and Euro Hexsert[®]



Inserts with hexagonal body, providing high torque-to-turn and pull-out performance, particularly in soft metals.



Key features and benefits

- Hexagonal section and bore improves torque-to-turn in components via form lock when compared to round and splined inserts
- Superior pull-out performance
- Can be used for very thin sheet materials from 0.50 mm (0.02")
- Double diameter body and lead-in chamfer provide easy insertion into hole
- Access needed from only one side of the application, for high speed assembly
- Various platings available to increase corrosion resistance
- Low profile head allows near flush fit to application
- Large flange head provides a load bearing surface and reinforces the hole to prevent push-out. Can be used as a spacer and can be supplied with an underhead seal.
- Closed end prevents the ingress of dirt and fluids into thread and electrical circuits
- Can be used with hand tools, pneumatic tools and fully automated machines to suit a wide range of assembly methods

Specifications

Thread Sizes:

M3 – M12

Materials:

Steel, stainless steel

Headforms:

Low profile and large flange

Body:

Hexagonal

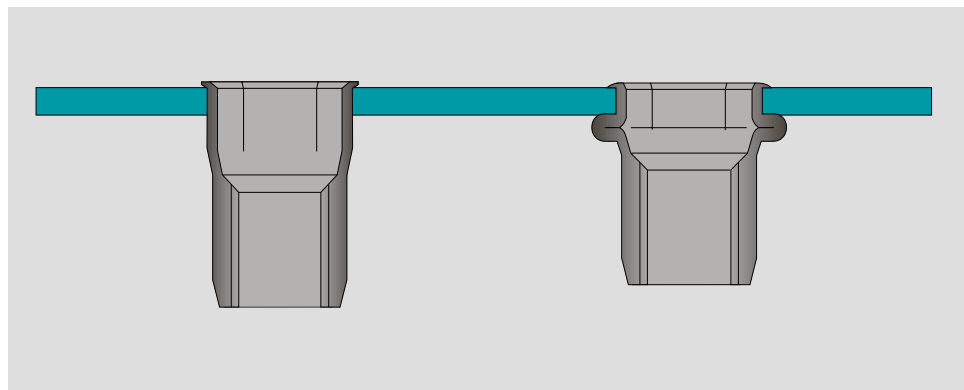
Option:

Closed end

Hole Size:

Metric and imperial options

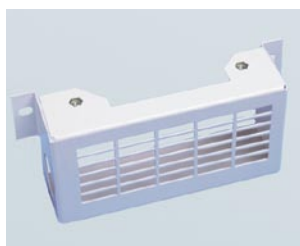
Typical placing sequence



Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Automotive chassis components
- Electrical engineering
- Sheet metal
- Domestic appliances
- Switchgear cabinets
- Thermal applications



High Strength Hexsert®



High strength Hexsert® provides clamp force comparable to weld nuts and clinch nuts in high torque applications. They offer equivalent thread proof load strength to ISO 898 Property Class 10 weld nuts and clinch nuts, and can handle tightening torques commonly applied to Property Class 10.9 and 12.9 screws and bolts.



Key features and benefits

- Exceptional torque capability
- High speed assembly
- Provides high-strength threads in thin materials starting at 0.5mm
- Increased thread strength
- If excessive torque is applied, the screw shank should fail before the insert, avoiding over-tightening problems such as thread stripping and expensive rework
- Installed with standard Avdel handtools, as well as multi-head and auto-feed robotic systems

Specifications

Thread Sizes:

M6 – M12

Material:

Steel

Headforms:

Large flange

Body:

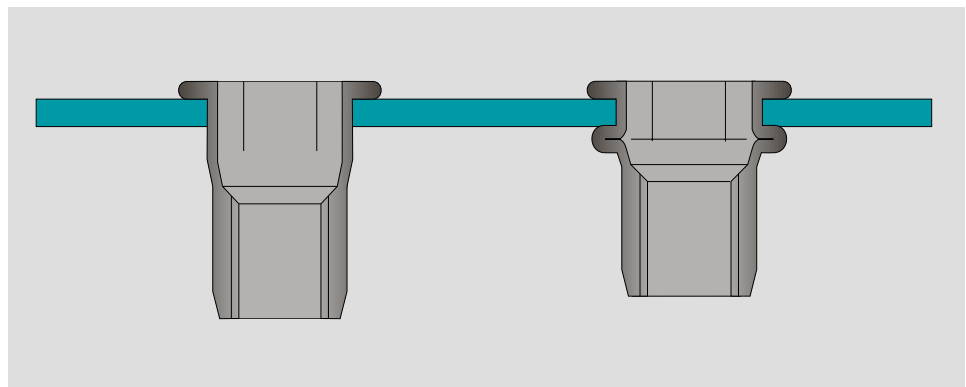
Hexagonal

Hole Size:

Metric

Avdel Patent Protected.

Typical placing sequence



Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Tubular steel
- Hydroformed parts
- Magnesium castings
- Aluminum extrusions





Steel inserts with square body, providing very high torque-to-turn and pull-out performance in all materials.



Key features and benefits

- Square section and bore improves torque-to-turn in components via form lock due to even greater contact surface compared to round and splined inserts
- Increases hole punch life compared to hexagonal geometries
- Superior pull-out performance
- Can be used for very thin sheet materials from 0.50mm (0.02")
- Various platings available to increase corrosion resistance
- Large flange head provides a load bearing surface and reinforces the hole to prevent push-out
- Can be used as a spacer and can be supplied with an underhead seal
- Can be used with hand tools, pneumatic tools and fully automated machines to suit a wide range of assembly methods

Specifications

Thread Sizes:

M5 – M8

Material:

Steel

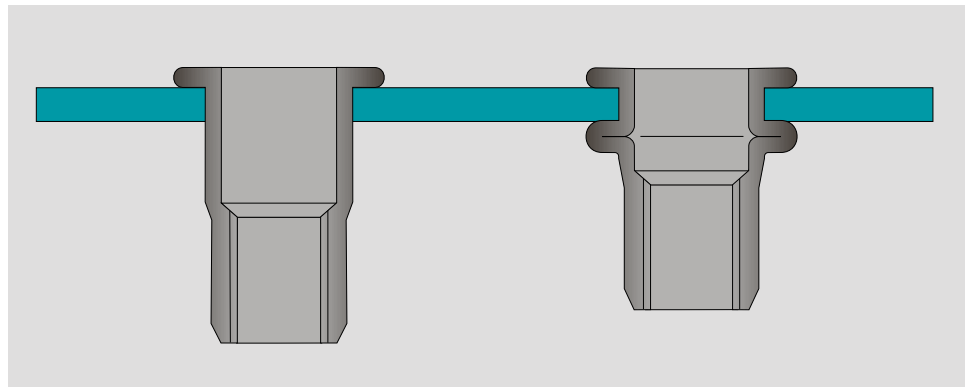
Headform:

Large flange

Hole Size:

Metric

Typical placing sequence



Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Automotive body mountings
- Electrical enclosures
- Soft sheet metal
- Plastics & composites
- Domestic appliances
- General light fabrication





Versa-Nut® inserts are designed for blind-sided use in soft materials, plastics and composites. Versa-Nut® Inserts have a higher pull out and torque-to-turn resistance than most alternative blind inserts. The insert's higher strength allows designers to reduce the size or number of fasteners in an assembly and because it features a grip range far greater than that of a standard rivet nut, it suits a wide number of applications.



Key features and benefits

- Specially designed for use in soft or weak materials, plastics, composites, or very thin panels
- Large head size spreads clamp load of assembled joint
- Additional benefits against conventional inserts:
 - 1) Extra large blind side bearing area after placing offers:
 - Higher pull-out and torque-to-turn resistance
 - Less radial loading of holes in brittle materials
 - Less risk of cracking and de-lamination of composites
 - 2) Up to twice the grip range of standard blind inserts:
 - Enables a designer to reduce the size or number of fasteners in an assembly
 - Covers large variations of thicknesses

Specifications

Thread Sizes:

M4 – M8

Material:

Steel

Headform:

Large flange

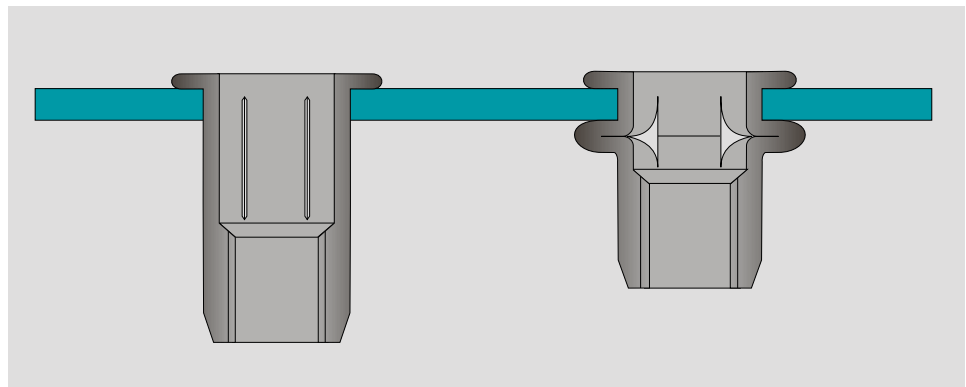
Body:

Round

Hole Size:

Imperial

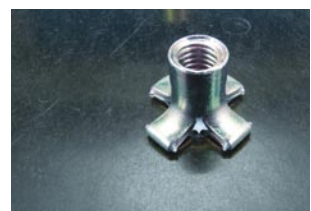
Typical placing sequence

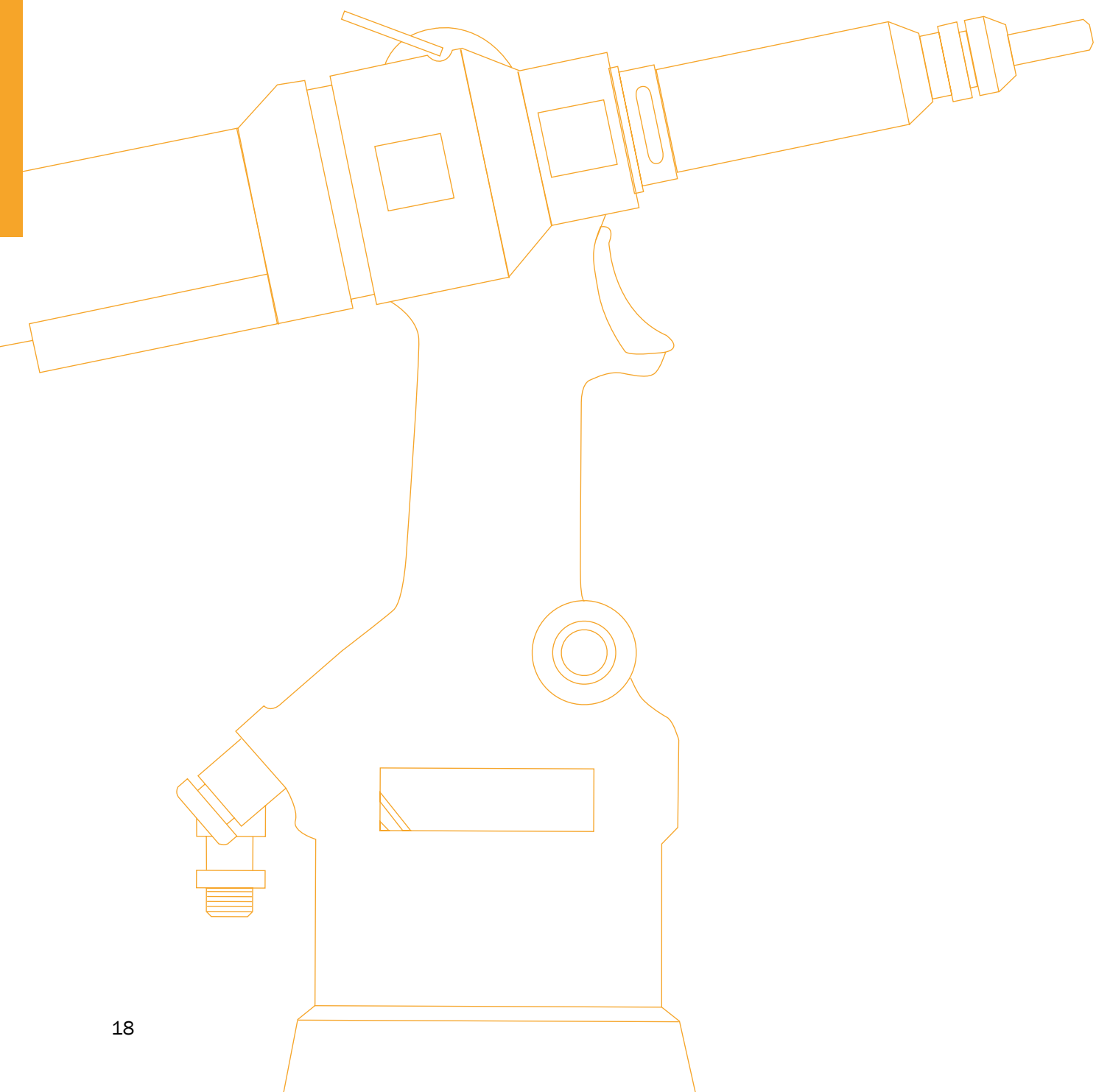


Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Blow-molded automotive parts and trim fixings
- Sandwiched sections, and composite panels in truck, bus, caravan and marine interiors
- General composite and plastic sections for toys
- Small domestic appliances
- Containers
- Display panels
- Plastic furniture
- Fiberboard and plywood assemblies





Installation Tools

Avdel offers a highly cost effective and flexible range of hand operated power tools for placing threaded inserts. The range is designed to meet the needs of different applications and assembly environments as well as different types of threaded inserts. Key benefits include:

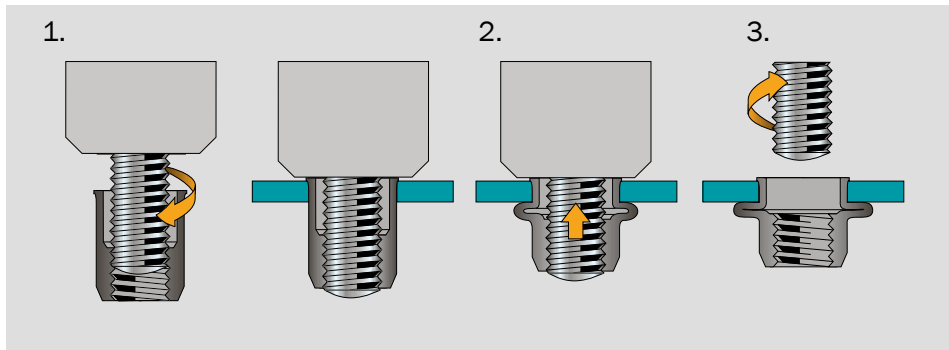
- Lower in-place costs through high speed, accurate placement of inserts
- Greater production flexibility from batch work to assembly line
- Improved product quality through reliable and secure thread installation
- Maximum operator comfort and improved ergonomics

Handtools

Avdel Threaded Insert Power Tools use the 'spin-pull' technology:

The benefits of 'spin-pull' technology

- Generates high pull forces required to place large diameter and thick wall inserts
- Reduces wear on the drive screw resulting in lower maintenance and longer tool lifetime
- Compact, ergonomically designed tools which can be suspended or hand held
- Allows placement of lubricated and unlubricated inserts



1. The insert is automatically threaded onto the drive screw.

2. On activating the tool, the threaded insert is pulled towards the tool, forming the body radially outwards to clench tightly against the workpiece.

3. The drive screw of the tool reverses and is disengaged from the thread leaving the insert securely in position.

Handtools

74200 model

A high performance hydro-pneumatic power tool in heavy duty plastic, designed for rapid, blind sided installation of threaded inserts from M3 to M12.

- Heavy duty plastic tool body and long-life components provide a durable and robust construction for a long working life. Ideal for demanding production environments
- The ergonomic design provides for reduced operator fatigue and increased productivity. The tool can be suspended or hand held
- Latest 'spin-pull' technology ensures accurate and secure thread installation and reduces wear on the drive screw.
- Places lubricated and unlubricated inserts
- Lightweight design makes it portable and easy to handle
- Average cycle time of 2.5 secs reduces assembly time to a minimum

74201 model

The 74201 tool complements the 74200 model by offering the additional feature of pressure setting so that the insert is always fully formed, regardless of clamping capacity changes. It is designed for applications where inserts are being placed into the same application with varying sheet thicknesses, which is increasingly the case with the use of plastics, composite materials and magnesium and aluminium castings. The 74201 is also advantageous in conditions where swarf may be present at the back of drilled holes and for blind holes (i.e. tubes) where you cannot see if the insert has correctly formed – body building, instrument panel beams.

The tool installs inserts to a set hydraulic pressure (which may be adjusted), rather than operating to a fixed stroke. This eliminates the need to adjust stroke or to use more than one tool to install inserts into different thicknesses, improving product quality and reducing assembly cycle times.

- The pressure setting allows operators to install same fastener into varying material thickness without any adjustment to stroke. Thus eliminates operator responsibility for setting tool stroke and also overcomes rear sheet swarf issues
- Utilises standard 74200 nose equipment and can install M3 to M8 inserts
- The ergonomic design provides for reduced operator fatigue and increased productivity. The tool can be suspended or hand held
- The plastic covered cast and aluminium body provides highly impact resistance when dropped. The tool does not rely on plastic casing to take loading from pneumatic cylinder action
- Lightweight design makes it portable and easy to handle
- Heavy duty rubber base increases impact resistance and durability

74200



74201



74401 split tool

A hydro pneumatic power tool with separated intensifier creating a high pull force enabling the fitting of a variety of Avdel threaded inserts. The 74401's compact and ergonomic design has a long life span with low maintenance requirements.

- Split tool offering a lightweight placing head
- Designed to place threaded inserts up to M12
- The ergonomic design provides for reduced operator fatigue
- Generates high pull forces
- Longer tool life and lower maintenance

74405 split tool

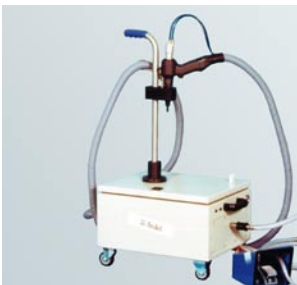
A high performance hydro-pneumatic power tool designed for installing threaded inserts requiring more setting stroke. This tool offers a greater amount of stroke, whilst maintaining lightweight and ergonomic features as a result of the split intensifier.

- Split tool offering a lightweight placing head
- Designed to place Versa-Nut® threaded inserts up to M10
- The ergonomic design provides for reduced operator fatigue
- High placement speed for increased productivity
- Robust tool with ease to maintenance

74290 tool for hexagonal hole production

The 74290 tool compliments and extends the range of Avdel hand tools for installing threaded inserts, by offering the capability of producing hexagonal holes for threaded Hexsert® inserts into materials where access is only possible from one side. The 74290 tool allows customers to benefit from the non-rotational properties of hexagonal inserts compared with round inserts. This is achieved by drilling a round hole, then inserting the 74290 tool and forming a hex hole.

74401



74405



74290

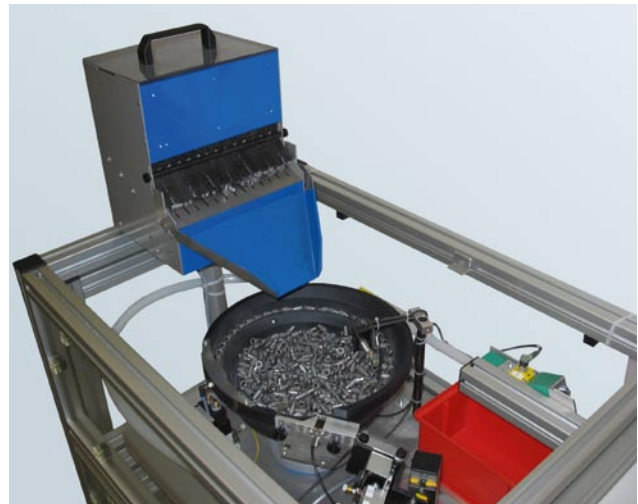


Automated Assembly Systems

Autosert®

The Autosert® automated system is a modular design for M3-M10 threaded inserts, reducing assembly time and costs. The integral processing diagnostics ensure the assembly process is highly controlled for improved product quality. The feeder bowl holds up to 2000 inserts for continuous fastener feed.

- Modular design of placing head, blow feed unit and PLC control cabinet for quick and simple integration into assembly lines. The system works as a stand-alone unit and can be used to fasten a wide range of applications.
- Flexible electric, pneumatic and hydraulic connections between the three main components for quick and simple interface with a wide range of assembly systems.
- For maximum production flexibility and minimum tool downtime the compact, lightweight placing head is quick to reconfigure, can be mounted separately and used at any angle.
- The integral processing diagnostics at all stages with clear and simple PLC displays provide for high precision, highly reliable assembly and improved product quality.



Assembly Applications

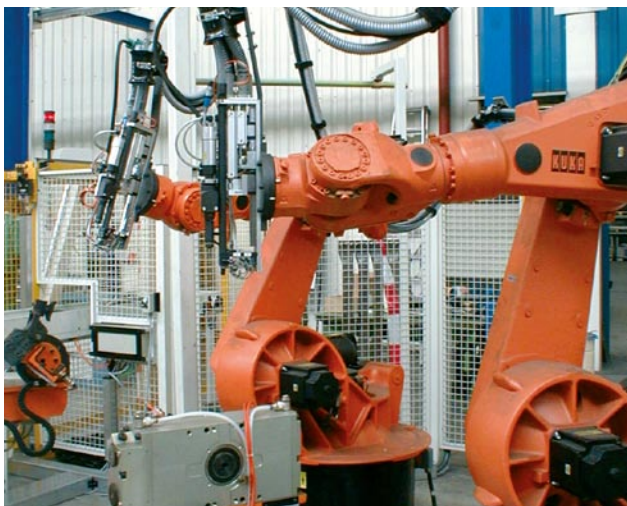
Automotive - Car Seat

Four Autosert® workstations with blow feed system, modular head, stockline indicator and bulk container, place 4 x M12 Hexsert® inserts per unit in a cycle time of 30 seconds. A total of 7,200 Hexsert® inserts are placed in 1800 units per day.



Automotive - Dashboard

The assembly of this dashboard mounting beam, a hydroformed tube with 29 lasered hex holes, is fully automated with robots. Four Autosert® workstations with blow feed systems and modular heads place 29 x M6 and M8 Hexsert® inserts per part in a cycle time of 95 seconds.



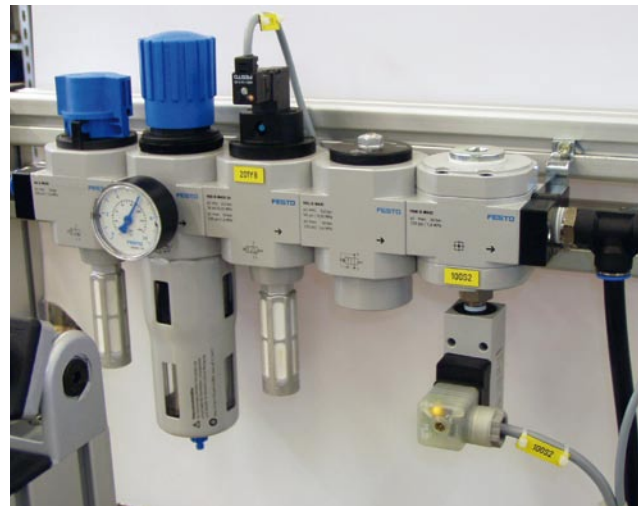
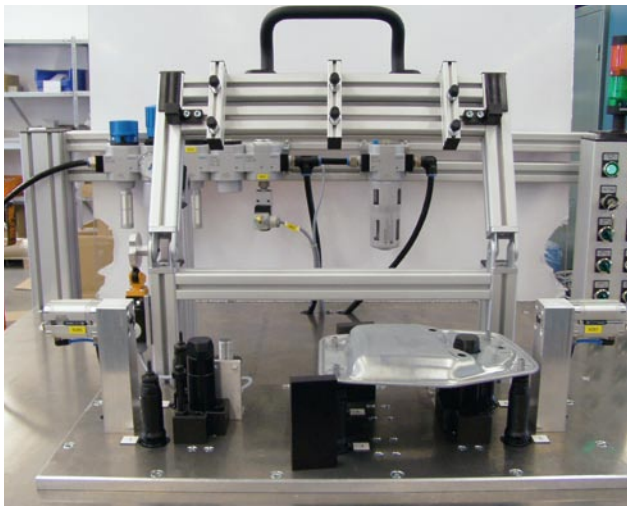
Assembly Workstations

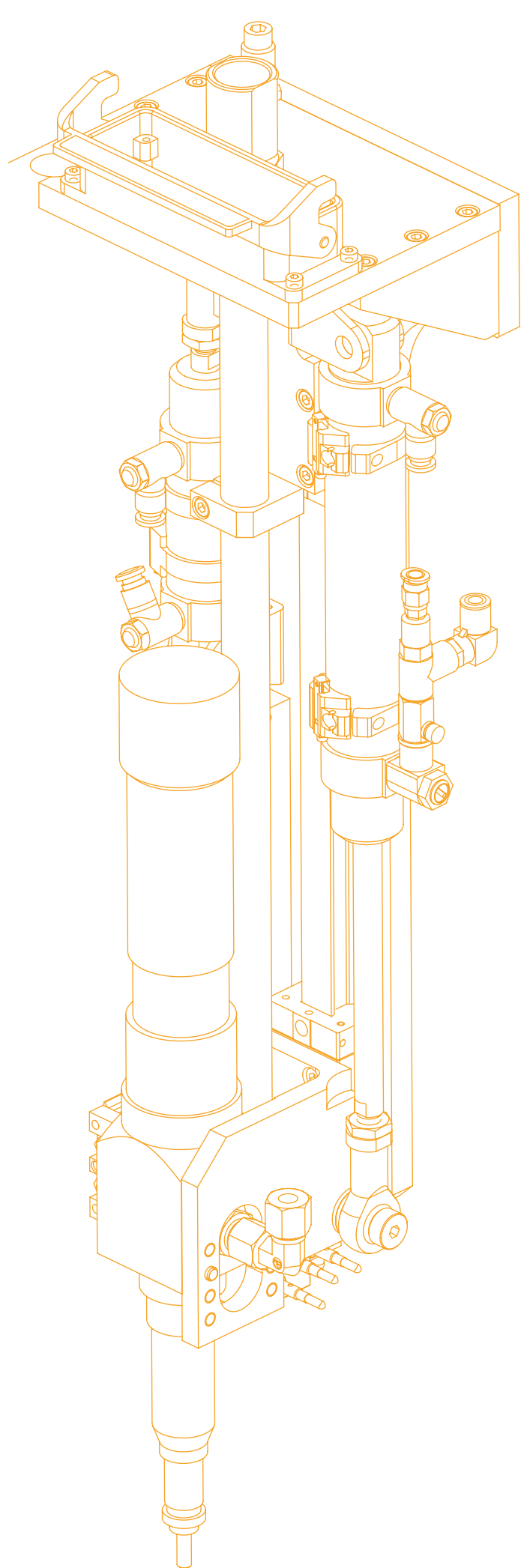
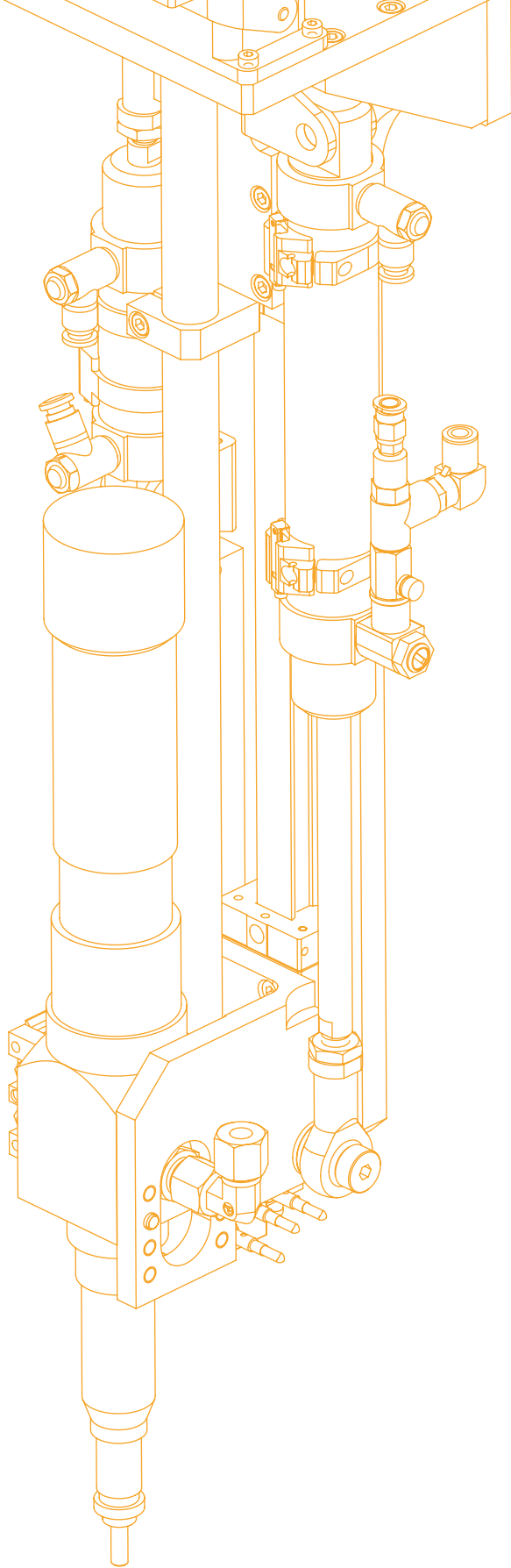
Customised Assembly Systems

Multi-head Workstation (semi automated)

Designed for multiple and synchronous placement of threaded inserts. The example shows a station for placing 6 x M5 Hexsert® inserts for different applications, including process monitoring of part and insert presence and insert placed

diagnostic. These customised multi-head workstations can dramatically reduce assembly time and cost at improved quality.



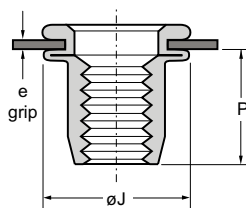
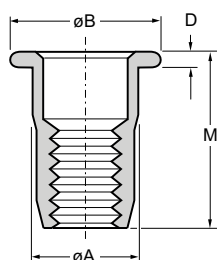


Eurosert® 9408



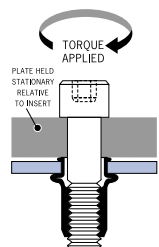
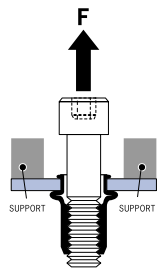
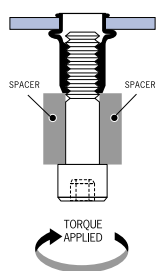
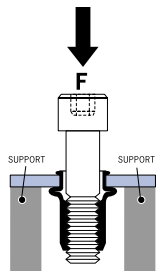
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Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Splined body	Fût cannelé	Gerändelter Schaft	Corpo zigrinato	Cuerpo estriado
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		max.	max.	±0.13	max.	nom.	max.	
M3 x 0.5	0.25	2.00	5.00	4.95	8.20	0.75	7.40	10.50	6.00	09408-72314
M4 x 0.7	0.25	3.00	6.00	5.95	9.20	0.75	8.80	11.50	7.10	09408-72415
	3.00	4.50						13.00		09408-72417
M5 x 0.8	0.25	3.00	7.00	6.95	10.20	1.00	10.20	13.00	7.90	09408-72517
	3.00	5.50						15.50		09408-72520
M6 x 1.0	0.50	3.00	9.00	8.95	13.20	1.50	12.70	16.00	9.40	09408-72621
	3.00	5.50						18.50		09408-72623
M8 x 1.25	0.50	3.00	11.00	10.95	16.40	1.50	15.00	17.50	11.00	09408-72822
	3.00	5.50						20.00		09408-72825
M10 x 1.5	0.50	3.50	13.00	12.95	18.90	2.25	17.50	22.00	14.50	09408-72028
	3.50	6.00						25.00		09408-72031

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

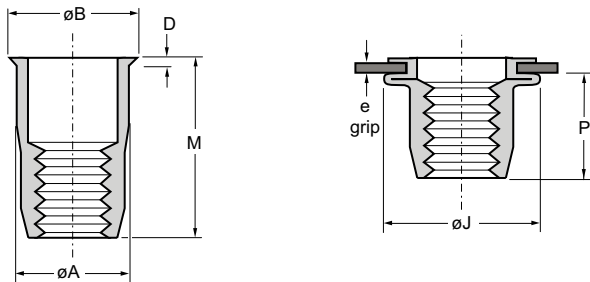
Thread / filetage / Gewinde / filetto / rosca	 Recommended max. torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	1.5	4.2	1.1	1.8
M4 x 0.7	5.1	5.5	2.2	2.9
M5 x 0.8	7.9	8.0	3.4	4.2
M6 x 1.0	12.4	10.8	4.7	6.5
M8 x 1.25	32.0	12.5	6.8	7.9
M10 x 1.5	45.0	17.3	16.7	10.7

Eurosert® 39002



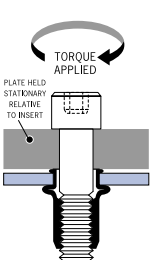
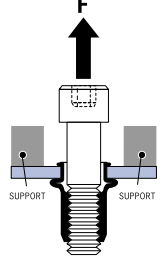
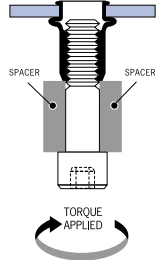
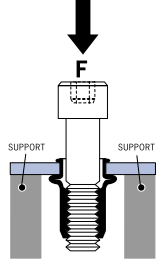
English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Stainless steel*	Inox*	Edelstahl*	Acciaio inox*	Acero inoxidable*
Natural	Brut	Blank	Nessuna finitura	Natural

* : Werkstoff 1.4570



Thread / filetage / Gewinde / filetto / rosca	e (grip)			ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	max.	max.	max.	max.	max.	
M4 x 0.7	0.25	3.00	6.0	5.95	6.70	0.46	8.80	11.30	7.10	39002-24030
M5 x 0.8	0.25	3.00	7.0	6.95	7.80	0.46	10.20	12.70	7.90	39002-25030

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

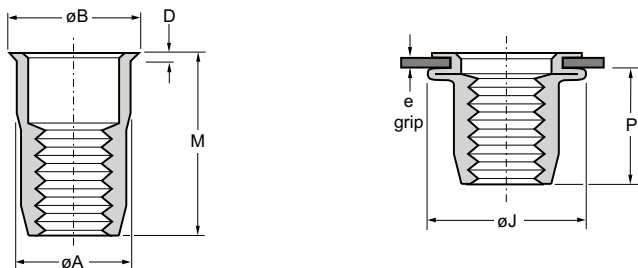
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	5.6	9.8	1.8	1.8
M5 x 0.8	11.3	12.5	2.6	2.5

Eurosert® 39006



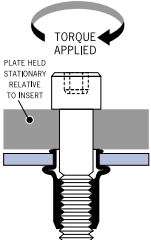
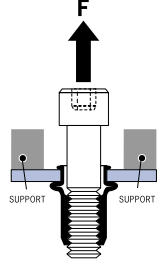
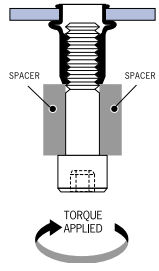
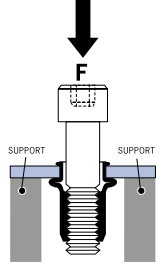
English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Splined body	Fût cannelé	Gerändelter Schaft	Corpo zigrinato	Cuerpo estriado
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	e (grip)			ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	max.	±0.13	max.	nom.	max.	
M4 x 0.7	0.25	2.00	6.00	5.97	6.70	0.46	8.80	11.30	7.10	39006-74020
M5 x 0.8	0.25	3.00	7.00	6.97	7.80	0.46	10.20	12.70	7.90	39006-75030
M6 x 1.0	0.50	3.00	9.00	8.97	10.20	0.50	12.70	15.30	9.40	39006-76030
	3.00	5.50						17.80		39006-76055
M8 x 1.25	0.50	3.50	11.00	10.97	12.20	0.63	15.00	17.30	11.00	39006-78035
	3.50	6.00						19.80		39006-78060
M10 x 1.5	1.00	3.50	13.00	12.97	14.20	0.63	17.50	20.40	14.50	39006-70035

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

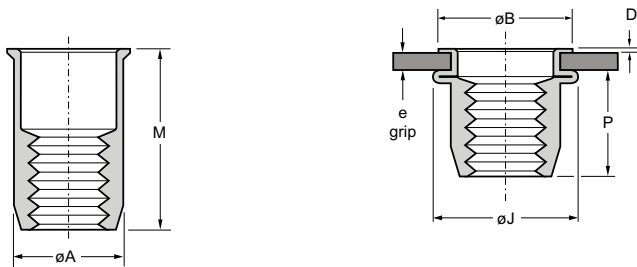
Thread / filetage / Gewinde / filetto / rosca	 Recommended max. torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	5.1	3.6	2.0	1.2
M5 x 0.8	7.9	7.8	2.8	1.4
M6 x 1.0	12.4	15.8	5.0	2.6
M8 x 1.25	32.0	18.1	9.1	3.5
M10 x 1.5	45.0	20.8	16.7	3.9

Nutsert® / TSN® 9468



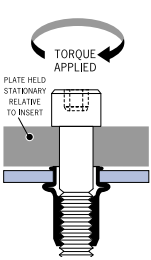
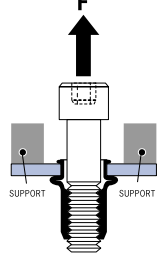
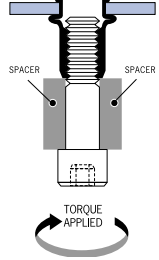
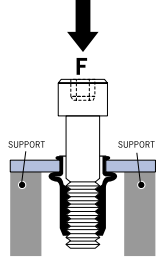
English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Stainless steel*	Inox*	Edelstahl*	Acciaio inox*	Acero inoxidable*
Natural	Brut	Blank	Nessuna finitura	Natural

* : Werkstoff 1.4305



Thread / filetage / Gewinde / filetto / rosca	e (grip)			ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	max.	max.	max.	max.	max.	
M3 x 0.5	0.51	1.50	4.75	4.73	5.77	0.64	8.40	9.15	5.80	09468-00310
M4 x 0.7	0.51	2.00	6.35	6.32	7.50	0.64	10.30	10.42	7.20	09468-00413
M5 x 0.8	0.51	3.00	7.15	7.11	8.26	0.64	12.70	11.82	7.00	09468-00514
M6 x 1.0	0.76	3.25	9.53	9.50	10.85	0.77	15.50	14.61	9.50	09468-00619
M8 x 1.25	0.91	3.70	10.60	10.57	11.74	0.77	17.20	16.13	10.10	09468-05821
M10 x 1.5	1.00	3.60	14.30	14.28	15.80	0.77	23.30	18.62	10.50	09468-01023

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

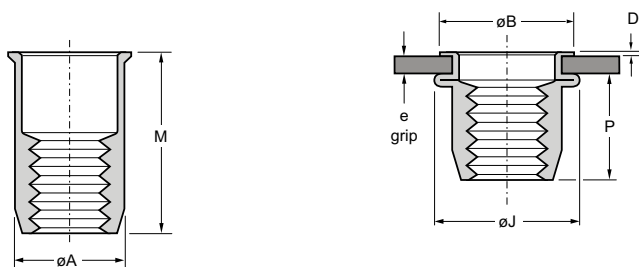
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	4.0	8.2	0.4	1.0
M4 x 0.7	5.6	9.2	1.9	2.0
M5 x 0.8	11.3	12.0	2.6	2.7
M6 x 1.0	16.9	18.3	3.4	2.9
M8 x 1.25	22.6	24.2	3.6	3.2
M10 x 1.5	33.8	33.9	4.2	4.2

Nutsert® / TSN® 9658



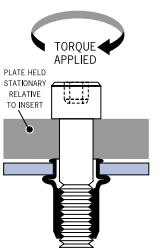
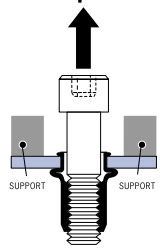
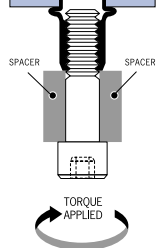
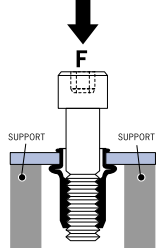
English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué,	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente
Lubricated	Lubrifié	Trockenfilmbeschichtet	Lubrificato	Lubricado

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		max.	max.	max.	max.	max.	max.	
M3 x 0.5	0.51	1.50	4.75	4.72	5.84	0.38	8.40	9.02	5.80	09658-70310
M4 x 0.7	0.51	2.00	6.35	6.32	7.30	0.51	10.30	10.41	7.20	09658-70413
M5 x 0.8	0.51	3.00	7.15	7.11	8.00	0.51	12.70	11.81	7.00	09658-70514
M6 x 1.0	0.76	3.25	9.55	9.50	10.67	0.76	15.50	14.60	9.50	09658-70619
M8 x 1.25	0.91	3.70	10.60	10.57	11.68	0.76	17.20	16.00	10.10	09658-75821
M10 x 1.5	1.00	3.60	14.20	14.17	16.20	0.76	23.30	18.50	10.50	09658-72022

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

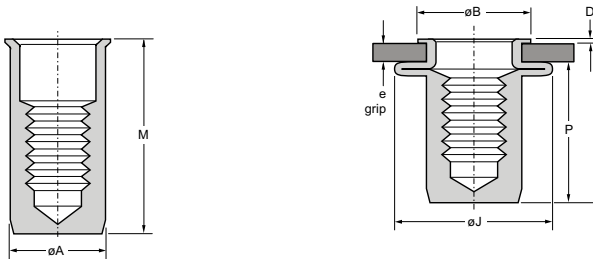
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	1.5	2.7	0.4	0.8
M4 x 0.7	5.1	6.6	1.9	1.5
M5 x 0.8	7.9	8.0	2.6	1.9
M6 x 1.0	12.4	11.4	3.4	2.4
M8 x 1.25	16.4	15.7	3.6	2.8
M10 x 1.5	33.9	18.7	4.2	3.7

Nutsert® / TSN® FS38



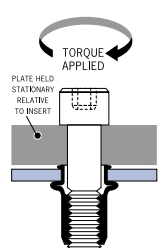
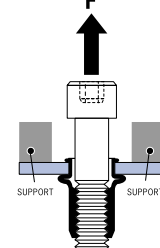
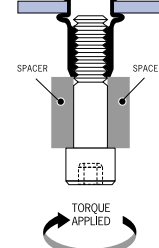
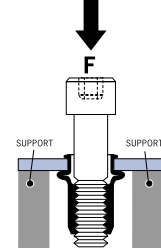
English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Closed end	Borgne	Geschlossen	Fondo cieco	Fondo cerrado
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	e (grip)			ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	max.	max.	max.	max.	max.	
M4 x 0.7	0.51	2.00	6.35	6.34	7.50	0.64	10.00	14.91	11.70	0FS38-70418
M5 x 0.8	0.51	3.00	7.15	7.13	8.26	0.64	12.20	20.26	15.50	0FS38-70521
M6 x 1.0	0.76	3.25	9.53	9.52	10.85	0.77	15.00	23.49	18.60	0FS38-70626
M8 x 1.25	0.91	3.70	10.60	10.59	11.74	0.77	16.80	23.63	18.10	0FS38-70829

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

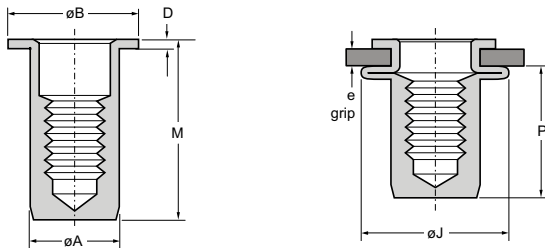
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	5.1	6.6	1.9	1.5
M5 x 0.8	7.9	8.0	2.6	1.9
M6 x 1.0	12.4	11.4	3.4	2.4
M8 x 1.25	16.4	15.7	3.6	2.8

Nutsert® / TSN® FS58



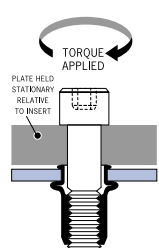
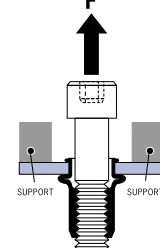
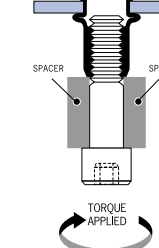
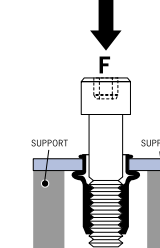
English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Closed end	Borgne	Geschlossen	Fondo cieco	Fondo cerrado
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	e (grip)		 +0.1/-0	ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	max.	± 0.13	max.	max.	max.	
M4 x 0.7	0.50	2.50	6.10	6.05	9.30	0.80	10.50	16.64	12.10	0FS58-70421
M5 x 0.8	0.50	2.50	7.10	7.05	10.30	1.00	13.30	17.56	12.30	0FS58-70522
M6 x 1.0	0.50	3.00	9.10	9.05	13.30	1.50	15.00	22.48	16.00	0FS58-70628
M8 x 1.25	1.00	4.00	11.10	11.05	14.30	1.50	18.60	25.84	19.80	0FS58-70832

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

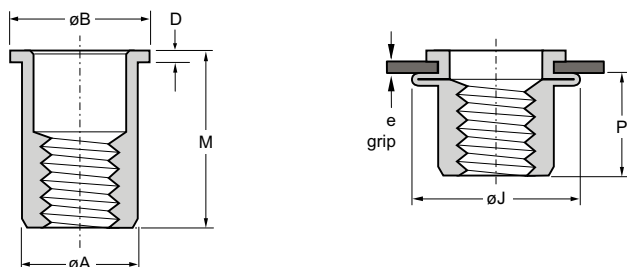
Thread / filetage / Gewinde / filetto / rosca	 Recommended max. torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	5.1	5.5	1.5	2.9
M5 x 0.8	7.9	8.0	3.0	4.2
M6 x 1.0	12.4	10.8	3.4	6.5
M8 x 1.25	16.4	12.5	5.6	7.9

Nutsert® / TSN® FW78



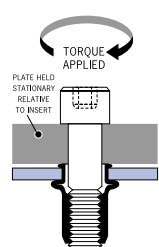
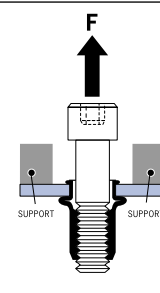
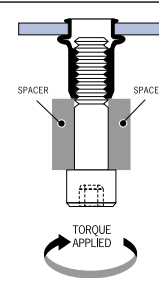
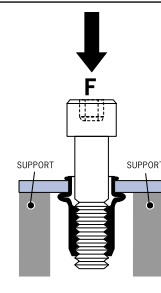
English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Aluminium alloy* (2.5 % Mg)	Alliage d'aluminium* (2.5% Mg)	Aluminium* (2.5 % Mg)	Lega di alluminio* (2.5% Mg)	Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural

* : AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523



Thread / filetage / Gewinde / filetto / rosca	e (grip)			ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	± 0.35	± 0.15	max.	± 0.35	max.	
M3 x 0.5	0.25	2.00	5.10	5.00	8.00	0.75	7.00	10.50	6.50	0FW78-00320
	2.00	3.00						11.50		0FW78-00330
M4 x 0.7	0.25	3.00	6.10	6.00	10.00	0.75	8.10	11.50	6.80	0FW78-00430
	3.00	4.50						13.00		0FW78-00445
M5 x 0.8	0.25	3.00	7.10	7.00	11.00	1.00	9.60	13.00	8.30	0FW78-00530
	3.00	5.50						16.00		0FW78-00555
M6 x 1.0	0.50	3.00	9.10	9.00	13.00	1.50	12.10	16.00	10.00	0FW78-00630
	3.00	5.50						18.00		0FW78-00655
	5.50	8.00						20.50		0FW78-00680
M8 x 1.25	0.50	3.00	11.10	11.00	16.00	1.50	14.50	17.50	11.50	0FW78-00830
	3.00	5.50						20.00		0FW78-00855
	5.50	8.00						23.00		0FW78-00880
M10 x 1.5	0.80	3.50	12.50	12.40	18.50	2.25	16.50	22.00	14.70	0FW78-01035
	3.50	6.00						25.00		0FW78-01060

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

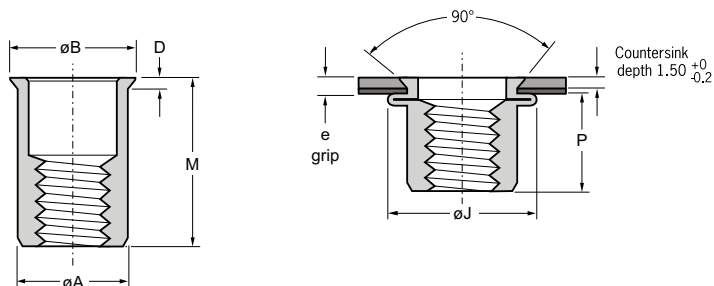
Thread / filetage / Gewinde / filetto / rosca	 Recommended max. torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	1.2	3.4	0.7	1.1
M4 x 0.7	4.0	4.9	1.7	1.6
M5 x 0.8	5.3	6.0	1.8	2.0
M6 x 1.0	10.8	8.6	2.3	3.6
M8 x 1.25	23.0	12.3	6.9	4.5
M10 x 1.5	28.0	15.7	7.5	5.2

Nutsert® / TSN® FW96



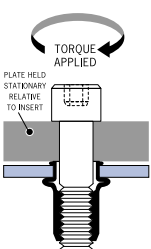
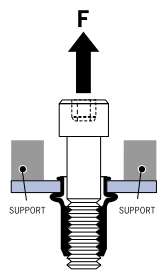
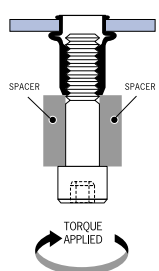
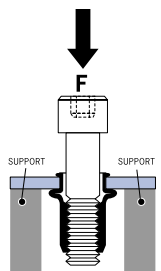
English	Français	Deutsch	Italiano	Español
90° Countersunk	90° Tête fraisée	90° Senkkopf	90° Testa svasata	90° Cabeza avellanada
Aluminium alloy* (2.5 % Mg)	Alliage d'aluminium* (2.5% Mg)	Aluminium* (2.5 % Mg)	Lega di alluminio* (2.5% Mg)	Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural

* : AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		+0.1/-0	max.	+0/-0.4	+0.3/-0.1	max.	± 0.35	
M3 x 0.5	1.70	3.50	5.10	5.00	8.00	1.50	7.00	11.25	6.50	0FW96-00335
M4 x 0.7	1.70	3.50	6.10	6.00	9.00	1.50	8.10	11.50	6.80	0FW96-00435
	3.50	5.00						13.00		0FW96-00450
M5 x 0.8	1.70	4.00	7.10	7.00	10.00	1.50	9.60	13.00	8.30	0FW96-00540
	4.00	6.50						16.00		0FW96-00565
M6 x 1.0	1.70	4.50	9.10	9.00	12.00	1.50	12.10	17.00	10.00	0FW96-00645
	4.50	6.50						19.00		0FW96-00665
M8 x 1.25	1.70	4.50	11.10	11.00	14.00	1.50	14.50	19.00	11.50	0FW96-00845
	4.50	6.50						21.00		0FW96-00865
M10 x 1.5	1.70	4.50	12.50	12.40	15.40	1.50	16.50	21.00	14.70	0FW96-01045
	4.50	6.50						23.00		0FW96-01065

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

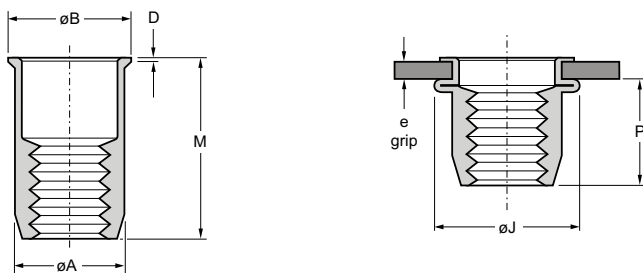
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	1.2	3.7	0.8	1.4
M4 x 0.7	4.0	4.7	1.7	1.9
M5 x 0.8	5.3	6.3	2.2	2.6
M6 x 1.0	10.8	10.1	4.7	3.4
M8 x 1.25	23.0	11.7	7.8	3.7
M10 x 1.5	28.0	13.8	9.9	4.7

Nutsert® / TSN® GM17



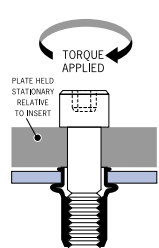
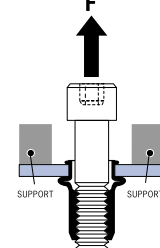
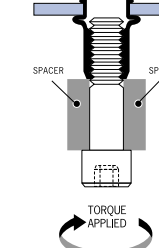
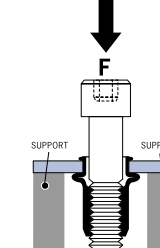
English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Aluminium alloy* (2.5 % Mg)	Alliage d'aluminium* (2.5% Mg)	Aluminium* (2.5 % Mg)	Lega di alluminio* (2.5% Mg)	Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural

* : AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		max.	+0.3/-0.2	+0.3/-0.1	max.	± 0.35	max.	
M4 x 0.7	0.50	3.00	6.10	6.00	6.50	0.50	8.10	10.75	6.80	OGM17-00430
M5 x 0.8	0.50	3.00	7.10	7.00	7.50	0.50	9.60	12.00	8.30	OGM17-00530
M6 x 1.0	0.50	3.00	9.10	9.00	9.50	0.50	12.10	14.50	10.00	OGM17-00630
M8 x 1.25	0.50	3.00	11.10	11.00	11.50	0.50	14.50	16.00	11.50	OGM17-00830

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

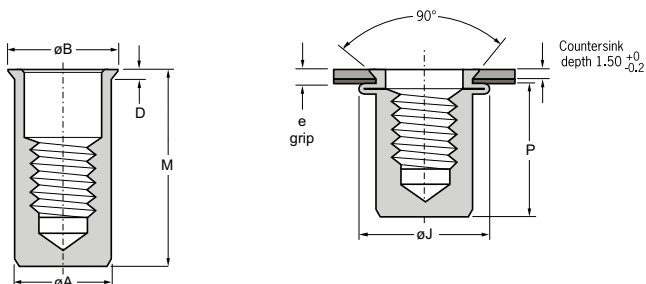
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	4.0	3.7	1.6	0.7
M5 x 0.8	5.3	5.4	2.1	0.8
M6 x 1.0	10.8	8.5	2.4	0.9
M8 x 1.25	23.0	13.1	5.4	1.0

Nutsert® / TSN® GM57



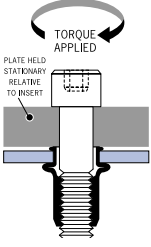
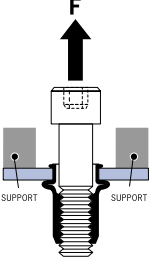
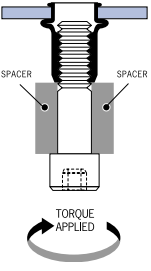
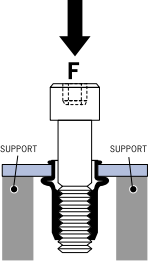
English	Français	Deutsch	Italiano	Español
90° Countersunk	90° Tête fraisée	90° Senkkopf	90° Testa svasata	90° Cabeza avellanada
Closed end	Borgne	Geschlossen	Fondo cieco	Fondo cerrado
Aluminium alloy* (2.5 % Mg)	Alliage d'aluminium* (2.5% Mg)	Aluminium* (2.5 % Mg)	Lega di alluminio* (2.5% Mg)	Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural

* : AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523



Thread / filetage / Gewinde / filetto / rosca	e (grip)			ØA	ØB	D	ØJ	M	P	Part No/ref
	min.	max.		max.	+0/-0.4	+0.3/-0.1	max.	± 0.35	max.	
M4 x 0.7	1.70	3.50	6.10	6.00	9.00	1.50	8.10	15.50	10.80	OGM57-00435
	3.50	5.00						17.00		OGM57-00450
M5 x 0.8	1.70	4.00	7.10	7.00	10.00	1.50	9.60	18.00	14.30	OGM57-00540
	4.00	6.50						20.50		OGM57-00565
M6 x 1.0	1.70	4.50	9.10	9.00	12.00	1.50	12.10	22.00	17.50	OGM57-00645
	4.50	6.50						24.00		OGM57-00665
M8 x 1.25	1.70	4.50	11.10	11.00	14.00	1.50	14.50	25.00	19.00	OGM57-00845
	4.50	6.50						28.00		OGM57-00865

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

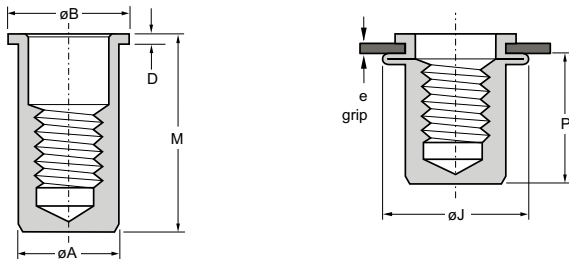
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	4.0	4.7	1.7	1.9
M5 x 0.8	5.3	6.3	2.2	2.6
M6 x 1.0	10.8	10.1	4.7	3.4
M8 x 1.25	23.0	11.7	7.8	3.7

Nutsert® / TSN® GM68



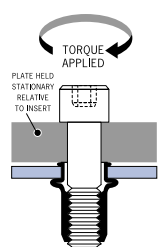
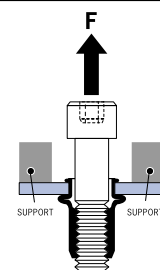
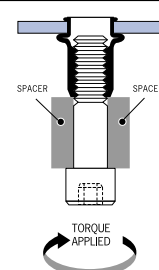
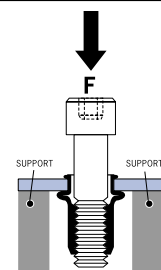
English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Closed end	Borgne	Geschlossen	Fondo cieco	Fondo cerrado
Aluminium alloy* (2.5 % Mg)	Alliage d'aluminium* (2.5% Mg)	Aluminium* (2.5 % Mg)	Lega di alluminio* (2.5% Mg)	Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural

* : AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		max.	±0.35	±0.15	max.	± 0.35	max.	
M3 x 0.5	0.25	2.00	5.10	5.00	8.00	0.75	7.00	14.00	10.00	OGM68-00320
M4 x 0.7	0.25	3.00	6.10	6.00	10.00	0.75	8.10	15.50	10.80	OGM68-00430
	3.00	4.50						17.00		OGM68-00445
M5 x 0.8	0.25	3.00	7.10	7.00	11.00	1.00	9.60	19.00	14.30	OGM68-00530
	3.00	5.50						21.50		OGM68-00555
M6 x 1.0	0.50	3.00	9.10	9.00	13.00	1.50	12.10	23.00	17.50	OGM68-00630
	3.00	5.50						26.00		OGM68-00655
M8 x 1.25	0.50	3.00	11.10	11.00	16.00	1.50	14.50	24.00	19.00	OGM68-00830
	3.00	5.50						27.00		OGM68-00855

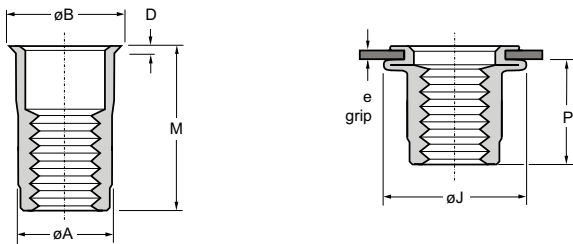
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	1.2	3.4	0.7	1.1
M4 x 0.7	4.0	4.9	1.7	1.6
M5 x 0.8	5.3	6.0	1.8	2.0
M6 x 1.0	10.8	8.6	2.3	3.6
M8 x 1.25	23.0	12.3	6.9	4.5

DK DKA



English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Splined body	Fût cannelé	Gerändelter Schaft	Corpo zigrinato	Cuerpo estriado
Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Clear protective coating	Couche protectrice claire	Klare Schutzschicht	Strato protezione chiaro	Capa protectora clara

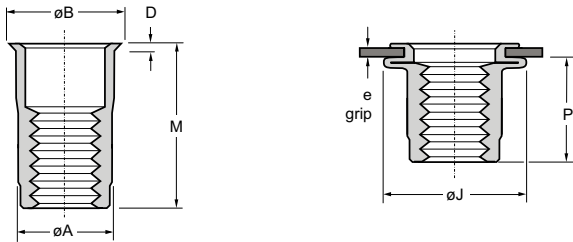


Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		max.	±0.25	±0.05	max.	±0.38	max.	
M4 x 0.7 6H	0.5	2.0	6.75	6.73	7.87	0.48	9.91	10.67	7.75	DKA-470-2.0
	2.0	3.3						11.94		DKA-470-3.3
M5 x 0.8 6H	0.5	3.3	7.60	7.52	8.64		11.43	12.07	8.00	DKA-580-3.3
	3.3	5.7						14.86		DKA-580-5.7
M6 x 1.0 6H	0.7	4.2	10.00	9.91	11.56	0.55	13.97	14.73	9.65	DKA-610-4.2
	4.2	6.6						17.27		DKA-610-6.6
M8 x 1.25 6H	0.7	3.8	13.50	13.46	15.11		18.80	17.53	11.94	DKA-8125-3.8
	3.8	7.9						20.45		DKA-8125-7.9
M10 x 1.5 6H	0.7	3.8						17.53		DKA-1015-3.8
	3.8	7.9						20.45		DKA-1015-7.9

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

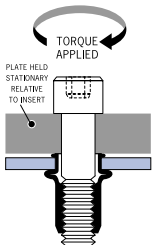
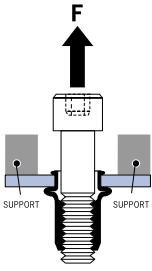
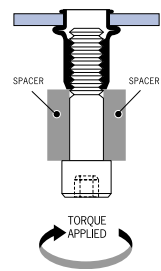
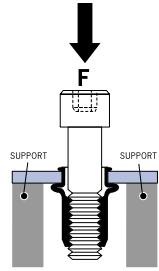


English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Splined body	Fût cannelé	Gerändelter Schaft	Corpo zigrinato	Cuerpo estriado
Steel	Acier	Stahl	Acciaio	Acero
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		max.	±0.25	±0.05	max.	±0.38	max.	
M4 x 0.7 6H	0.5	2.0	6.75	6.73	7.87	0.48	9.91	10.67	7.75	DKS-470-2.0
	2.0	3.3						11.94		DKS-470-3.3
M5 x 0.8 6H	0.5	3.3	7.60	7.52	8.64		11.43	12.07	8.00	DKS-580-3.3
	3.3	5.7						14.86		DKS-580-5.7
M6 x 1.0 6H	0.7	4.2	10.00	9.91	11.56	0.55	13.97	14.73	9.65	DKS-610-4.2
	4.2	6.6						17.27		DKS-610-6.6
M8 x 1.25 6H	0.7	3.8	13.50	13.46	15.11		18.80	17.53	11.94	DKS-8125-3.8
	3.8	7.9						20.45		DKS-8125-7.9
M10 x 1.5 6H	0.7	3.8						17.53		DKS-1015-3.8
	3.8	7.9						20.45		DKS-1015-7.9

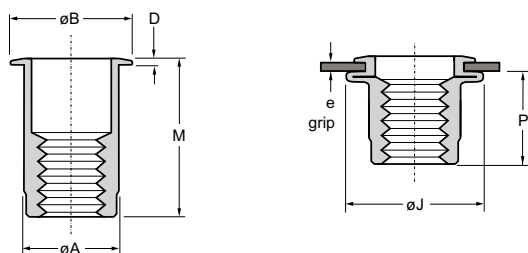
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

Thread / filetage / Gewinde / filetto / rosca				
	Recommended max torque	Pull-out	Torque-to-turn	Push-out
	Nm	kN	Nm	kN
M4 x 0.7 6H	6.2	2.3	1.1	0.8
M5 x 0.8 6H	10.7	2.8	1.4	1.5
M6 x 1.0 6H	18.1	3.0	1.4	1.4
M8 x 1.25 6H	N/A	5.0	2.7	2.3
M10 x 1.5 6H	N/A	5.0	2.7	2.3

DL DLA



English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Splined body	Fût cannelé	Gerändelter Schaft	Corpo zigrinato	Cuerpo estriado
Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Clear protective coating	Couche protectrice claire	Klare Schutzschicht	Strato protezione chiaro	Capa protectora clara

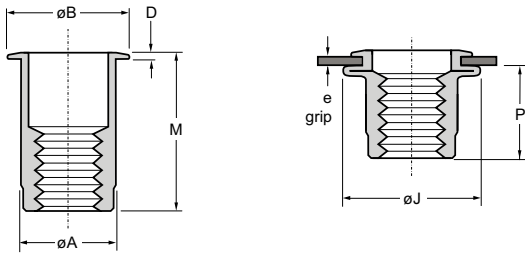


Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref
	min.	max.		+0.15/-0	max.	±0.25	±0.08	max.	±0.38	
M4 x 0.7 6H	0.5	2.0	6.80	6.75	9.91	0.76	9.91	10.67	7.75	DLA-470-2.0
	2.0	3.3						11.94		DLA-470-3.3
M5 x 0.8 6H	0.5	3.3	7.60	7.55	10.54		11.43	12.07	8.00	DLA-580-3.3
	3.3	5.7						14.86		DLA-580-5.7
M6 x 1.0 6H	0.7	4.2	10.00	9.90	12.70		13.97	14.73	9.65	DLA-610-4.2
	4.2	6.6						17.27		DLA-610-6.6
M8 x 1.25 6H	0.7	3.8	13.50	13.45	17.40	0.89		17.53	11.94	DLA-8125-3.8
	3.8	7.9						20.45	10.80	DLA-8125-7.9
M10 x 1.5 6H	0.7	3.8						17.53	11.94	DLA-1015-3.8
	3.8	7.9						20.45	10.80	DLA-1015-7.9

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

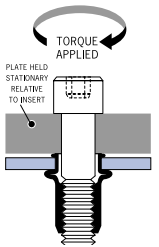
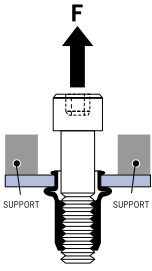
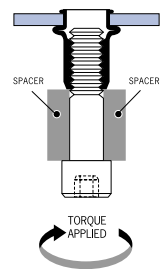
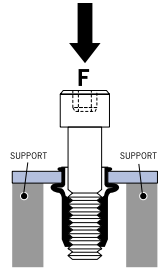


English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Splined body	Fût cannelé	Gerändelter Schaft	Corpo zigrinato	Cuerpo estriado
Steel	Acier	Stahl	Acciaio	Acero
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente



Thread / filetage / Gewinde / filetto / rosca	e (grip)			øA	øB	D	øJ	M	P	Part No/ref	
	min.	max.		max.	±0.25	±0.08	max.	±0.38	max.		
M4 x 0.7 6H	0.5	2.0	6.80	6.75	9.91	0.76	9.91	10.67	7.75	DLS-470-2.0	
	2.0	3.3						11.94		DLS-470-3.3	
M5 x 0.8 6H	0.5	3.3	7.60	7.55	10.54		11.43	12.07	8.00	DLS-580-3.3	
	3.3	5.7						14.86		DLS-580-5.7	
M6 x 1.0 6H	0.7	4.2	10.00	9.90	12.70		13.97	14.73	9.65	DLS-610-4.2	
	4.2	6.6						17.27		DLS-610-6.6	
M8 x 1.25 6H	0.7	3.8	13.50	13.45	17.40			0.89	17.53	11.94	DLS-8125-3.8
	3.8	7.9							20.45	10.80	DLS-8125-7.9
M10 x 1.5 6H	0.7	3.8							17.53	11.94	DLS-1015-3.8
	3.8	7.9							20.45	10.80	DLS-1015-7.9

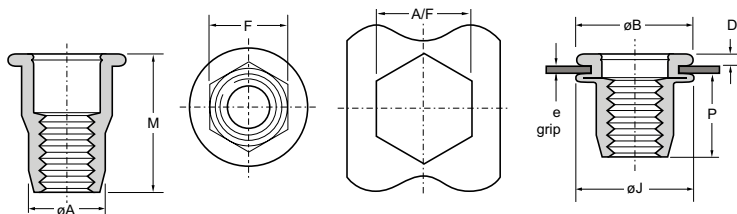
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm	kN	Nm	kN
M4 x 0.7 6H	6.2	2.3	1.1	0.8
M5 x 0.8 6H	10.7	2.8	1.4	1.5
M6 x 1.0 6H	18.1	3.0	1.4	1.4
M8 x 1.25 6H	N/A	5.0	2.7	2.3
M10 x 1.5 6H	N/A	5.0	2.7	2.3



English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Hexagonal body	Hexagonal corps	Hexagonaler Schaft	Hexagonal corpo	Hexagonal cuerpo
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué,	Verzinkt	Zincatura spessore	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	A/F rec.		e (grip)		øA	øB	D	F	øJ	M	P	Part No/ref
	min.	max.	min.	max.	± 0.08	max.	± 0.13	± 0.08	max.	± 0.50	max.	
M4 x 0.7	6.00	6.10	0.50	2.00	5.89	9.17	1.00	5.89	9.20	10.00	5.00	09498-72415
M5 x 0.8	7.00	7.10	0.50	3.00	6.89	10.17	1.00	6.89	11.20	13.20	6.80	09498-72516
			3.00	5.50						15.70		09498-72520
M6 x 1.0	9.00	9.10	0.50	3.00	8.89	13.20	1.50	8.89	13.40	15.50	10.10	09498-72620
M8 x 1.25	11.00	11.10	0.50	3.00	10.89	16.28	1.50	10.89	16.20	18.00	11.40	09498-72823
			3.00	5.50						20.5		09498-72826
M10 x 1.5	13.00	13.10	1.00	3.50	12.89	19.10	2.00	12.89	18.50	21.0	13.20	09498-72026
M12 x 1.75	16.00	16.10	1.50	4.50	15.89	23.30	2.25	15.89	23.60	27.8	17.00	09498-72235

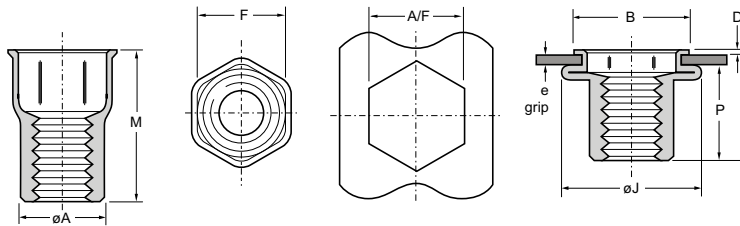
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	5.1	6.3	4.5	2.2
M5 x 0.8	7.9	8.8	8.6	3.6
M6 x 1.0	12.4	14.4	11.9	5.3
M8 x 1.25	32.0	15.0	25.0	8.0
M10x x 1.5	45.0	19.7	45.2	9.2
M12 x 1.75	60.0	21.3	58.0	10.2



English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Hexagonal body	Hexagonal corps	Hexagonaler Schaft	Hexagonal corpo	Hexagonal cuerpo
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué,	Verzinkt	Zincatura spessore	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente
Lubricated	Lubrifié	Trockenfilmbeschichtet	Lubrificato	Lubricado

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	A/F		e (grip)		øA	B	D	F	øJ		M	P	Part No/ref
	min.	max.	min.	max.	max.	max.	max.	max.	min. e	max. e	max.	max.	
M3 x 0.5	4.80	4.85	0.70	1.63	4.72	6.10	0.45	4.81	6.90	6.40	9.02	5.40	09688-70310
M4 x 0.7	6.38	6.43	0.51	1.63	6.33	8.00	0.69	6.37	10.00	8.70	10.42	7.40	09688-70413
M5 x 0.8	7.32	7.37	0.51	2.03	7.14	9.22	0.72	7.26	12.20	10.70	11.82	7.20	09688-70514
M6 x 1.0	9.65	9.70	0.76	2.92	9.53	11.94	0.89	9.64	15.00	12.70	14.61	9.70	09688-70619
M8 x 1.25	10.70	10.80	0.91	3.25	10.50	12.96	0.89	10.67	16.60	14.30	16.00	10.50	09688-70821

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

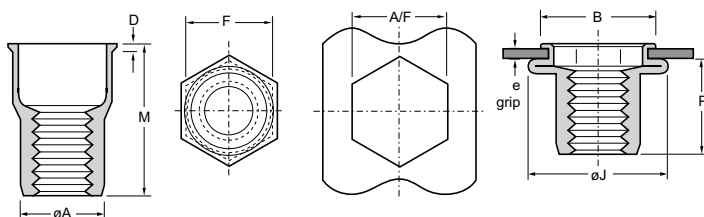
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M3 x 0.5	1.5	2.9	1.0	0.8
M4 x 0.7	5.1	4.2	4.0	1.3
M5 x 0.8	7.9	5.9	6.6	1.9
M6 x 1.0	12.4	6.9	8.7	2.4
M8 x 1.25	16.4	14.8	11.8	2.8

Euro Hexsert® 39101



English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Hexagonal body	Hexagonal corps	Hexagonaler Schaft	Hexagonal corpo	Hexagonal cuerpo
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	A/F	e (grip)		øA	B	D	F	øJ	M	P	Part No/ref
		min.	max.								
M4 x 0.7	6.0	0.50	2.00	5.89	7.80	0.69	5.89	9.20	10.50	6.00	39101-74020
M5 x 0.8	7.0	0.50	3.00	6.89	9.10	0.77	6.89	11.20	12.70	8.60	39101-75030
M6 x 1.0	9.0	0.50	3.00	8.89	11.60	0.91	8.89	13.40	15.00	10.10	39101-76030
M8 x 1.25	11.0	0.50	3.00	10.89	14.20	1.07	10.89	16.20	17.50	11.40	39101-78030
M10 x 1.5	13.0	1.00	3.50	12.89	16.40	1.07	12.89	18.50	20.20	13.20	39101-70035

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

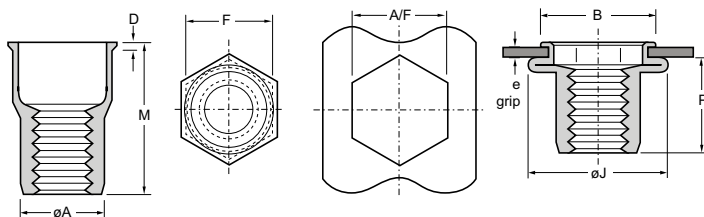
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M4 x 0.7	5.1	6.3	4.2	1.4
M5 x 0.8	7.9	8.8	7.5	2.6
M6 x 1.0	12.4	14.4	10.7	3.2
M8 x 1.25	32.0	15.0	22.7	4.1
M10 x 1.5	45.0	19.7	38.5	5.2

Euro Hexsert® 39102



English	Français	Deutsch	Italiano	Español
Low profile	Auto-affleurante	Extra kleiner Kopf	Testa a fila	Sin ala
Hexagonal body	Hexagonal corps	Hexagonaler Schaft	Hexagonal corpo	Hexagonal cuerpo
Stainless steel*	Inox*	Edelstahl*	Acciaio inox*	Acero inoxidable*
Natural	Brut	Blank	Nessuna finitura	Natural

* : BS 111 394S17, Werkstoff 1.4567



Thread / filetage / Gewinde / filetto / rosca	A/F	e (grip)		øA	B	D	F	øJ	M	P	Part No/ref
	+0.1/-0	min.	max.	± 0.08	max.	± 0.13	± 0.08	max.	± 0.50	max.	
M6 x 1.0	9.0	0.50	3.00	8.91	11.60	0.84	8.91	13.20	15.00	10.10	39102-26030
		3.00	5.50						17.50		39102-26055

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

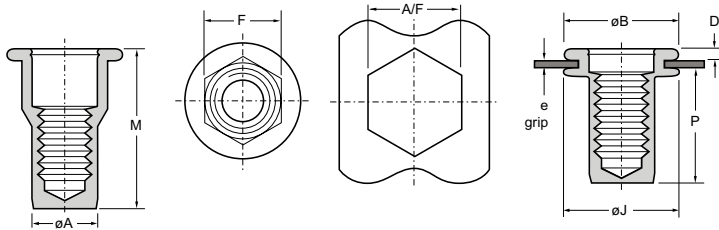
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
39102-26030	16.9	16.4	12.5	4.1
39102-26055	16.9	22.0	25.0	4.1

Euro Hexsert® 49141



English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Hexagonal body	Hexagonal corps	Hexagonaler Schaft	Hexagonal corpo	Hexagonal cuerpo
Closed end	Borgne	Geschlossen	Fondo cieco	Fondo cerrado
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué,	Verzinkt	Zincatura spessore	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	A/F rec.		e (grip)		øA	øB	D	F	øJ	M	P	Part No/ref
	min.	max.	min.	max.	± 0.08	max.	± 0.13	± 0.08	max.	± 0.50	max.	
M6 x 1.0	9.00	9.10	0.50	3.00	8.89	13.20	1.50	8.89	13.40	27.30	17.80	49141-76030
M8 x 1.25	11.00	11.10	0.50	3.00	10.89	16.28	1.50	10.89	16.20	28.00	20.10	49141-78030

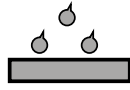
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M6 x 1.0	12.4	14.4	11.9	5.3
M8 x 1.25	32.0	15.0	25.0	8.0

High Strength Hexsert® 39301



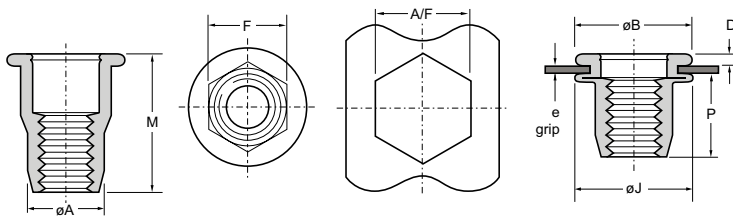
English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Hexagonal body	Hexagonal corps	Hexagonaler Schaft	Hexagonal corpo	Hexagonal cuerpo
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente



240 h**

*: DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008

** : to red rust / à la rouille rouge / bis Rotrost / alla ruggine rossa / al óxido rojo (ASTM B117)



Thread / filetage / Gewinde / filetto / rosca	A/F		e (grip)		øA	øB		D	F	øJ		M	P	Part No/ref
	min.	max.	min.	max.	±0.08	min.	max.	±0.13	±0.08	min.	max.	nom.	max.	
M6 x 1.0	9.0	9.1	0.5	3.0	8.89	12.80	13.20	1.50	8.89	12.0	13.5	18.8	11.6	39301-26030
M8 x 1.25	11.0	11.1	0.5	3.0	10.89	15.68	16.28	1.50	10.89	14.0	16.2	20.4	13.8	39301-28030
M10 x 1.5	13.0	13.1	1.0	3.5	12.89	18.50	19.10	2.00	12.89	16.2	19.3	26.0	17.8	39301-20035
M12 x 1.75	16.0	16.1	1.0	4.0	15.88	22.60	23.30	2.25	15.90	19.0	24.2	30.8	22.0	39301-22040

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

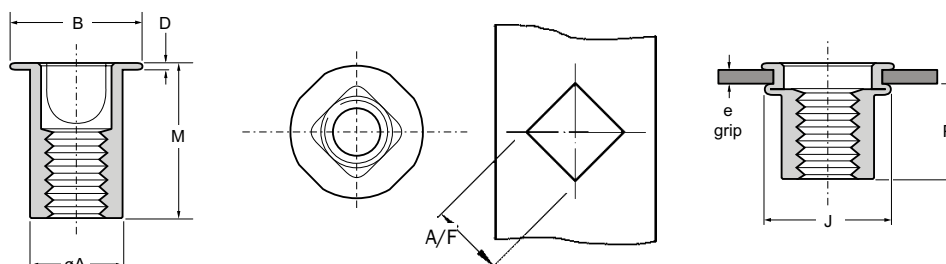
Thread / filetage / Gewinde / filetto / rosca	 Recommended max torque	 Pull-out	 Torque-to-turn		 Push-out
	max. Nm	e max. kN	e max. Nm	e min. Nm	e max. kN
M6 x 1.0	17.0	20.6	24.7	14.4	7.1
M8 x 1.25	60.0	28.1	34.6	15.6	10.7
M10 x 1.5	100.0	34.2	62.0	60.8	12.5
M12 x 1.75	135.0	40.9	135.0	62.0	18.3

Squaresert® GK08



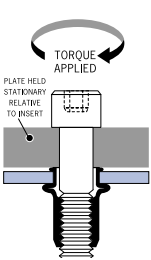
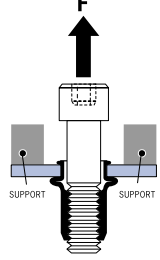
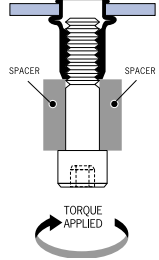
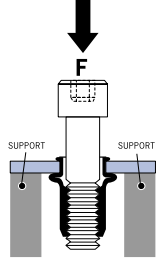
English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Square section	Corps carré	Vierkantschaft	Corpo quadrati	Cuerpo cuadrado
Low carbon steel*	Acier bas carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008



Thread / filetage / Gewinde / filetto / rosca	e (grip)		A/F	øA	B	D	J	M	P	Part No/ref
	min.	max.								
M5 x 0.8	0.50	1.50	7.30	7.10	10.90	0.65	10.40	11.40	8.20	OGK08-72514
	1.50	3.00						13.00		OGK08-72516
M6 x 1.0	0.50	2.00	9.30	9.10	13.50	0.95	13.50	15.50	9.90	OGK08-72619
	2.00	4.00						17.50		OGK08-72622
M8 x 1.25	1.00	3.00	11.30	11.10	18.00	1.65	16.40	18.90	11.80	OGK08-72823

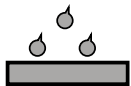
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

Thread / filetage / Gewinde / filetto / rosca	 Recommended max. torque	 Pull-out	 Torque-to-turn	 Push-out
	Nm max.	kN	Nm min.	kN
M5 x 0.8	7.9	5.5	10.2	2.4
M6 x 1.0	12.4	7.3	15.4	4.6
M8 x 1.25	32.0	10.5	34.0	6.5

Versa-Nut® VN21



English	Français	Deutsch	Italiano	Español
Large flange	A collerette	Flachkopf	Flangiato	Ala Ancha
Slotted body	Corps préfendu	Geschlitzte Hülse	Corpo fessurato	Cuerpo ranurado
Low carbon steel*	Acier à faible teneur en carbone*	Stahl*	Acciaio a basso tenore di carbonio*	Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

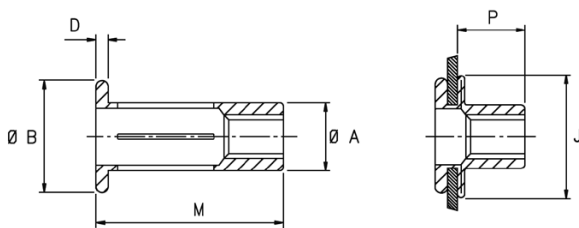


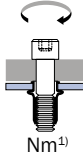
* : DIN EN 10263-2 Qst 34-3, BS EN/DIN 10263-2 C8C, Werkstoff 1.0213, SAE 1008

** : to red rust / à la rouille rouge / bis Rotrost / alla ruggine rossa / al óxido rojo (ASTM B117)

*** : to white rust / à la rouille blanche / bis Weißrost / alla ruggine bianca / al óxido blanco

240 h**/96 h***



Thread / filetage / Gewinde / filetto / rosca					Ø A	Ø B	D	J	M	P	 Nm ¹⁾	Part No/ref
	min.	max.	min.	max.	max.	max.	max.	max.	max.	max.		
M4 x 0.7	0.50	3.80	6.13	6.25	6.12	11.34	1.09	14.0	18.01	8.60	5.1	OVN21-02422
	3.80	6.85							21.16			OVN21-02426
M5 x 0.8	0.50	4.45	7.48	7.62	7.47	12.95	1.09	18.0	22.39	9.90	7.9	OVN21-02528
	4.45	8.10							25.16			OVN21-02531
M6 x 1.0	0.50	7.10	8.80	8.93	8.79	16.12	1.63	22.0	27.30	12.80	12.4	OVN21-02634
	7.10	12.70							33.22			OVN21-02641
M8 x 1.25	0.50	7.10	11.11	11.50	11.10	19.29	1.70	26.0	30.92	14.47	32.0	OVN21-02838
	7.10	12.70							36.87			OVN21-02846

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

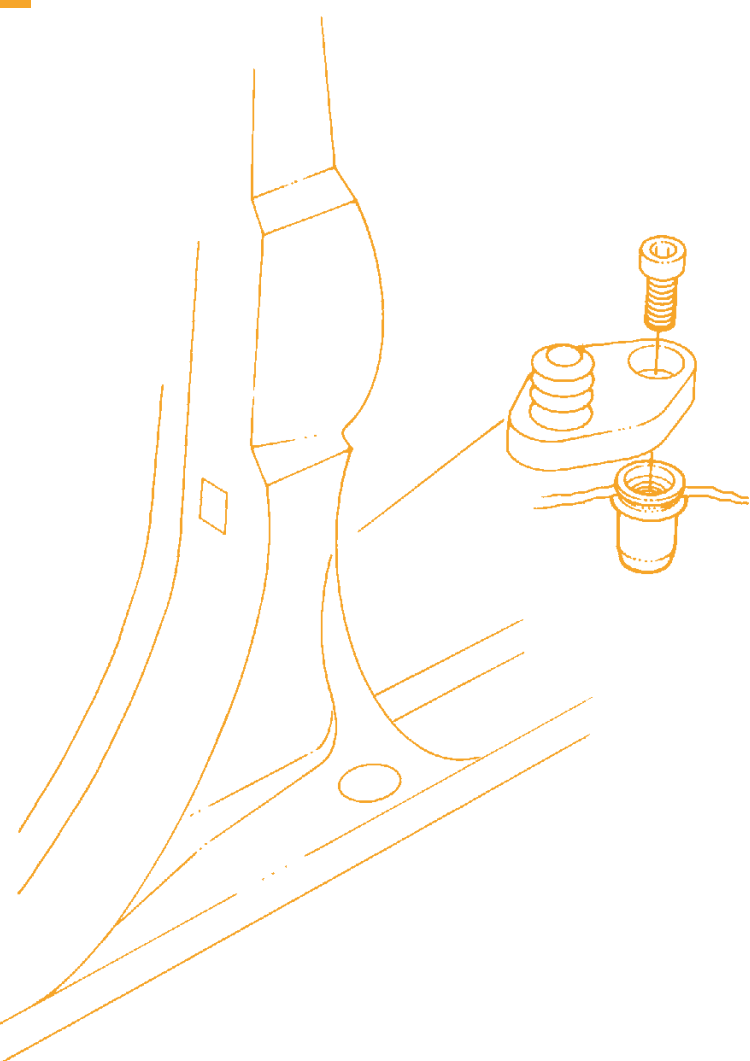
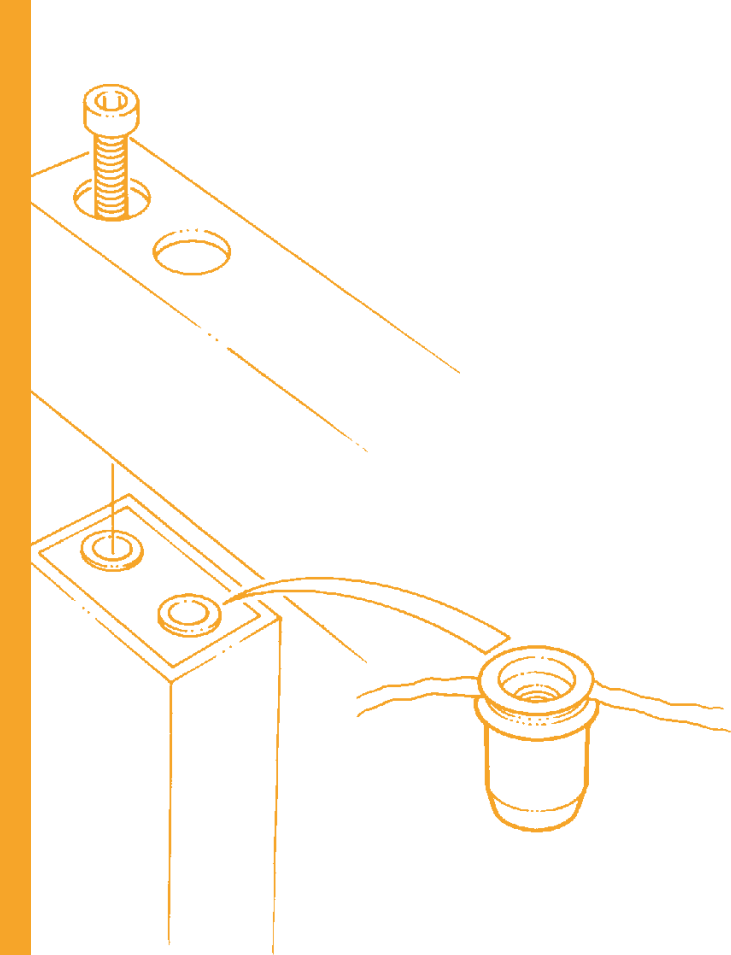
1) Recommended maximum torque as applied to a joint with a static top plate. Thread of insert will not be damaged. However this torque value may exceed the strength of the screw or bolt in question. Always refer to the recommended tightening torque limits for the screw or bolt.

Couple maximum recommandé pour un assemblage avec plaque supérieure statique. Le filet de l'insert reste intact. Ce couple peut néanmoins dépasser la résistance de la vis ou du boulon en question. Veuillez toujours à vous référer aux limites de couple de serrage recommandées pour la vis ou le boulon.

Empfohlenes maximales Drehmoment für eine Verbindung bei der das obere an die Mutter anzuschraubende Bauteil fest eingespannt ist. Das Gewinde wird nicht beschädigt. Möglicherweise übersteigt dieser Anzugswert die Festigkeit der Schraube. Beziehen Sie sich immer auf die max. Anzugswerte der Schraube.

Coppia massima raccomandata applicata a una giuntura con piastra superiore statica. La filettatura dell'inserto non verrà danneggiata, comunque questa coppia può superare la resistenza della vite o del bullone impegnato. Verificare sempre le coppie di serraggio raccomandate della vite o bullone impiegato.

Par máximo recomendado aplicado a la unión con la placa superior estática. La rosca del inserto no queda dañada. Sin embargo este valor de par puede superar la resistencia del perno o tornillo en cuestión. Siempre consultar los límites de par de apriete recomendados para el perno o tornillo.

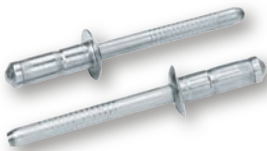


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