



## BUSSOLE AUTOFILETTANTI E SPECIALI

SELF-TAPPING AND SPECIAL THREADED INSERTS

SELBSTSCHNEIDENDE UND SONDER GEWINDEBUCHSEN

DOUILLES AUTOTARAUDEUSES ET SPÉCIALES

INSERTOS ROSCADOS AUTOTALANDRANTES Y ESPECIALES

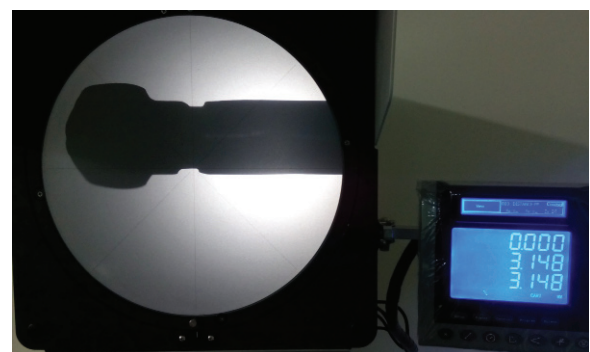
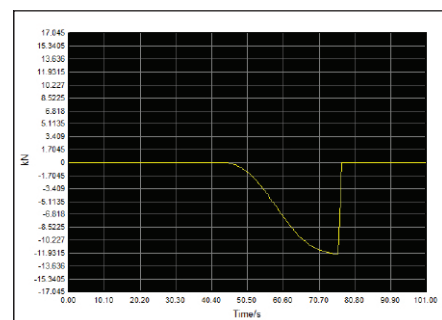
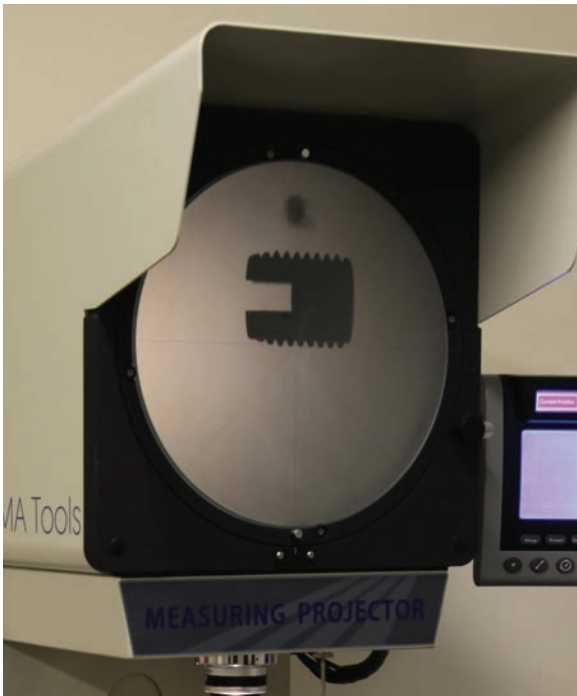
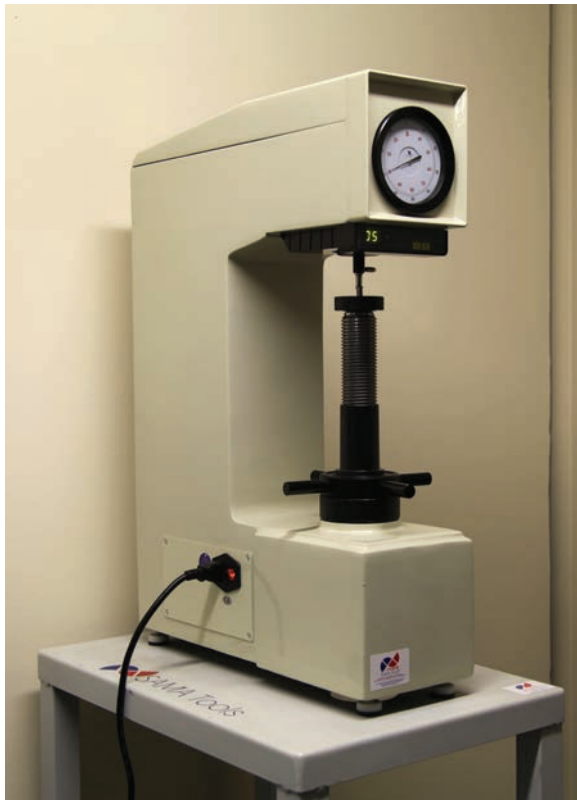
# FIXI®

FASTENING SYSTEMS



Il laboratorio Fixi garantisce la conformità dei prodotti grazie ad accurati test interni con macchinari di ultima generazione.

Fixi carries out accurate testing in its own lab equipped with the latest generation machinery to ensure product conformity.



**CONFEZIONAMENTO PERSONALIZZABILE**  
*CUSTOMIZABLE PACKAGING*  
*PERSONALISIERBARE VERPACKUNG*  
*EMBALLAGE PERSONNALISABLE*  
*EMBALAJE PERSONALIZABLE*



**ETICHETTA PERSONALIZZABILE**

*CUSTOMIZABLE LABEL*  
*PERSONALISIERBARE ETIKETTEN*  
*ETIQUETTE PERSONALISSABLE*  
*ETIQUETA PERSONALIZABLE*

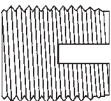
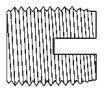
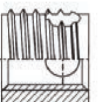
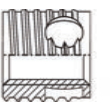
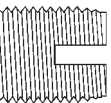
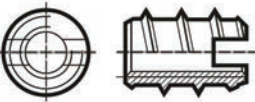
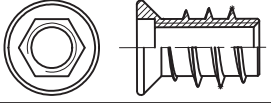
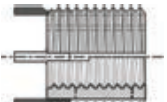
**LOGO CLIENTE**  
 CUSTOMER LOGO

**COD. PRODOTTO**  
 PRODUCT CODE









12,5 cm.



**INDICE GENERALE**  
**GENERAL INDEX**  
**INHALTSVERZEICHNIS**  
**SOMMAIRE GÉNÉRAL**  
**INDICE GENERAL**

		<b>PAGINA</b> <b>PAGE</b>
<b>MATERIALI DELLE BUSSOLE</b> <i>SELF-TAPPING INSERTS MATERIALS</i>		5
<b>INFORMAZIONI TECNICHE</b> <i>TECHNICAL INFORMATION</i>		6-7
<b>GUIDA ALLA SCELTA DELLE BUSSOLE</b> <i>INSERTS SELECTION GUIDE</i>		8
<b>METODI DI INSTALLAZIONE DELLE BUSSOLE AUTOFILETTANTI</b> <i>SELF-TAPPING INSERTS INSTALLATION METHODS</i>		9
	<b>F 212</b>	10
	<b>F 303</b>	11
	<b>F 318</b>	12
	<b>F 318-FC</b>	13
	<b>FXSCTB</b>	14
	<b>FXF309</b>	15
	<b>BF-BZ</b>	16
<b>ATTREZZATURE PER BUSSOLE AUTOFILETTANTI</b> <i>SELF-TAPPING INSERT TOOLS</i>		17
<b>DETTAGLI TECNICI</b> <i>TECHNICAL DETAILS</i>		18
	<b>KN-KNH</b>	19-20-21

**MATERIALI DELLE BUSSOLE***INSERTS MATERIALS**MATERIALEN DER BUCHSEN**MATÉRIAUX DES DOUILLES**MATERIALES DE LOS INSERTOS*

	F212	F303	F318	F318-FC	FXSCTB	FXF309	BF-BZ	KN-KNH
								
<b>MATERIALE</b> <b>MATERIAL</b>								
Acciaio temprato, zincato <i>Case-hardened zinc plated steel</i>	<b>ok</b>	<b>ok</b>	<b>ok</b>	<b>ok</b>			<b>ok</b>	<b>ok</b>
Acciaio Inox 1.4305 <i>Stainless steel 1.4305</i> AISI 303 X8CrNiS18-9	<b>ok</b>	<b>ok</b>	<b>ok</b>	<b>ok</b>				<b>ok</b>
Acciaio Inox 1.4404 <i>Stainless steel 1.4404</i> AISI 316L X2CrNiMo17-12-2	<b>ok</b>							
Ottone <i>Brass</i>					<b>ok</b>	<b>ok</b>		
Zama <i>Zamak</i>							<b>ok</b>	

Altri materiali e trattamenti superficiali su richiesta / *Other materials and coatings on demand.*

Le bussole autofilettanti FIXI sono inserti metallici con una filettatura interna ed una filettatura esterna. Vengono utilizzate sia in materiali duri (acciaio, acciaio inox) sia in materiali teneri (leghe leggere, plastiche, ghise, compositi, legno e derivati) e permettono di ottenere serraggi meccanici ad elevata tenuta.

### APPLICAZIONI

Le bussole autofilettanti FIXI sono indicate per i seguenti materiali

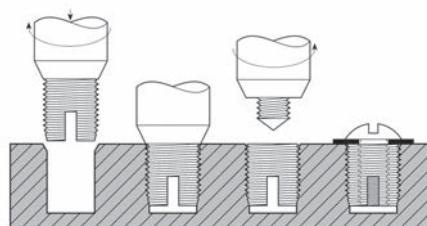
- Acciaio e acciaio inox
- Alluminio e leghe di alluminio
- Ottone, rame, bronzo e ghise
- Leghe di magnesio
- Materie plastiche e compositi
- Legno e derivati

Esempi di settori di utilizzo sono i seguenti:

- Automotive: motore, trasmissione, carrozzeria, interni.
- Elettrodomestici, dispositivi medicali, scatolati.
- Settore ferroviario, navale, aerospaziale.
- Produzione mobili, prodotti in materiale composito.

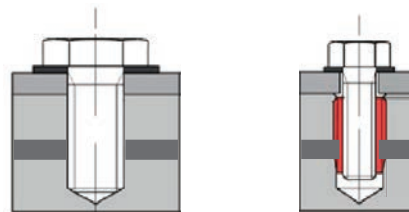
### SEMPLICI DA INSTALLARE!!!

Le bussole sono semplici da installare, occorre solo praticare un foro nel materiale ricevente, del diametro indicato, e si inseriscono tramite utensile manuale o a macchina.



### RISPARMIA DENARO!!!

Le bussole autofilettanti permettono di utilizzare viti di diametro più piccolo, con conseguente risparmio di peso, dimensioni e denaro (es. M6 al posto di M8, vedi fig.).



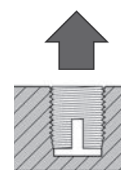
Vite M8 senza bussola

Vite M6 con bussola  
+ resistenza  
- dimensioni

Con l'utilizzo delle bussole autofilettanti anche il materiale ricevente può avere dimensioni e qualità minori.

### MAGGIORE TRAZIONE!!!

Le bussole autofilettanti permettono di ottenere una maggiore resistenza a trazione, rispetto a quella ottenibile filettando direttamente il materiale ricevente.



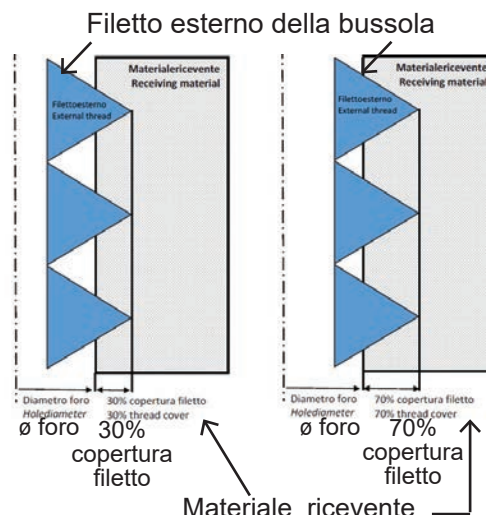
OK!

### ELEVATO RENDIMENTO!!!

Le bussole autofilettanti FIXI permettono di ottenere la massima tenuta a trazione anche quando i filetti esterni mordono poco il materiale ricevente.

Sono idonee per riparare fori filettati danneggiati mantenendo le dimensioni originali del materiale ricevente.

Utilizzando le bussole autofilettanti le filettature risultano rinforzate.



*FIXI self-tapping inserts are metal bushes with an internal and external thread. They are used in both hard materials (steel, stainless steel) and soft materials (light alloys, plastics, copper, cast iron, wood) and provide high performance mechanical fixings.*

## APPLICATIONS

*FIXI self-tapping inserts are suitable for the following materials:*

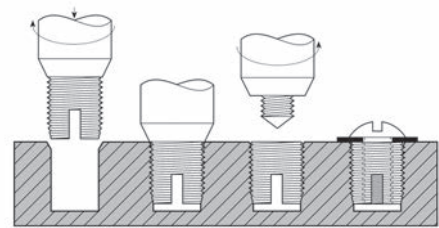
- Steel and stainless steel
- Aluminum and aluminum alloys
- Brass, Copper, Bronze, Cast iron
- Magnesium alloys
- Plastics and composites
- Wood and wood products

*Examples of fields of use are:*

- Automotive: engine, transmission, body parts, interiors
- Household appliances, medical devices
- Railway, marine, aerospace industries
- Furniture and products of composite materials

### EASY INSTALLATION

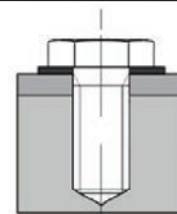
*Self-tapping inserts are easy to be installed. Simply drill the right hole diameter in the receiving material and insert the fastener by using a manual or machine-operated installation tool.*



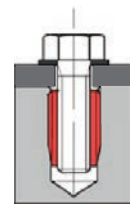
### MONEY-SAVING

*The use of self-tapping inserts can result in a reduction in thread size required saving material, reducing weight and costs (i.e. M6 instead of M8 bolts, see fig.).*

*By using the self-tapping inserts, the base material can also be thinner and less expensive too.*



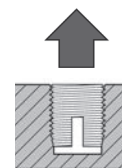
M8 bolt without self-tapping insert



M6 bolt with self-tapping insert  
+ performance  
- dimensions

### HIGHER PULL-OUT RESISTANCE

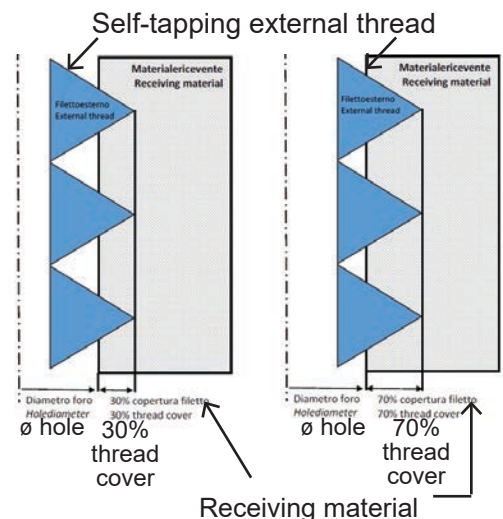
*Self-tapping inserts ensure a higher pull-out force compared to the one given by pre-tapping the receiving material.*



**OK!**

### HIGH PERFORMANCE

*Self-tapping inserts achieve almost maximum pull-out even with a reduced flange cover of the external thread. They are used for repairing damaged threads maintaining the same dimensions of the fixings and resulting in a reinforced thread.*











## GUIDA ALLA SCELTA DELLE BUSSOLE

INSERTS SELECTION GUIDE

PRODUKTWAHL ANLEITUNG

GUIDE POUR LE CHOIX DES DOUILLES

GUIA PARA ESCOGER LOS INSERTOS

	F212 	F303 	F318 	F318-FC 	FXSCTB 	FXF309 	BF-BZ 	KN-KNH 
<b>Materiale ricevente</b> <b>Receiving material</b>								
- acciaio/ <i>steel</i> - acciaio inox/ <i>stainless steel</i>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>OK</b>
Leghe metalliche tenere <i>Light metal alloy</i>  - alluminio e leghe di alluminio <i>aluminium and alluminium alloy</i> - leghe di magnesio <i>magnesium alloy</i> - leghe di rame/ <i>copper alloy</i> - ottone/ <i>brass</i>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>+/-</b>	<b>NO</b>	<b>NO</b>	<b>OK</b>
Leghe metalliche dure <i>heavy metal alloy</i>  - ghisa/ <i>cast iron</i> - leghe ferrose/ <i>ferrous metals</i>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>OK</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>OK</b>
Materiali plastici e compositi <i>Plastics and composites</i> - termoplastici/ <i>thermoplastics</i> - termoindurenti/ <i>thermosettings</i> - resine/ <i>resins</i>	<b>+/-</b>	<b>+/-</b>	<b>+/-</b>	<b>+/-</b>	<b>OK</b>	<b>+/-</b>	<b>+/-</b>	<b>NO</b>
Legno e derivati/ <i>wood and wood-based materials</i>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>+/-</b>	<b>OK</b>	<b>OK</b>	<b>NO</b>



# METODI DI INSTALLAZIONE DELLE BUSSOLE AUTOFILETTANTI





SELF-TAPPING INSERTS INSTALLATION METHODS

INSTALLATIONSMETHODEN DER SELBSTSCHNEIDENDEN GEWINDEBUCHSEN





MÉTHODES D'INSTALLATION DES DOUILLES AUTOTARAUDEUSES

METODO DE INSTALACION DE INSERTOS AUTOTALANDRANTES

## INSTALLAZIONE MANUALE / INSTALLATION BY HAND\*

			
<p>Forare con diametro appropriato a seconda del materiale ricevente. In ogni scheda tecnica sono indicati i fori consigliati.</p> <p><i>Create a hole with the proper diameter according to the receiving material. Recommended holes are reported in each data sheet.</i></p>	<p>Avvitare sull'utensile manuale la bussola con l'intaglio o con i fori rivolti verso il basso. Bloccare l'inserto stringendo il dado con una chiave.</p> <p><i>Screw the insert on the tool with the slots or cutting holes pointing downwards. Lock the nut by a wrench.</i></p>	<p>Tramite avvitatore o giramaschi utilizzare l'utensile manuale per inserire la bussola nel foro.</p> <p><i>Screw the insert into the hole by an electric screwdriver or wrench socket.</i></p>	<p>Sbloccare con una chiave il controdado sull'utensile manuale e svitarlo dalla bussola.</p> <p><i>Unlock the counternut by a wrench and unscrew the tool.</i></p>

## INSTALLAZIONE A MACCHINA / INSTALLATION BY MACHINE

			
<p>Forare con diametro appropriato a seconda del materiale ricevente. In ogni scheda tecnica sono indicati i fori consigliati.</p> <p><i>Create a hole with the proper diameter according to the receiving material. Recommended holes are reported in each data sheet.</i></p>	<p>Posizionare il materiale ricevente in modo che foro e attrezzo a macchina siano allineati. Avvitare la bussola sull'utensile a macchina con l'intaglio o con i fori rivolti verso il basso.</p> <p><i>Position the workpiece to ensure hole and tool are in alignment. Screw the insert into the machine tool with the slot or cutting holes pointing downwards.</i></p>	<p>Azionare la macchina per inserire la bussola nel materiale ricevente fino alla profondità desiderata o al raggiungimento del fine corsa. Si consiglia l'utilizzo di olio lubrificante durante la posa.</p> <p><i>Switch on the machine to install the insert into the hole until it reaches the proper depth or the limit switch. It is suggested to use lubricant during installation.</i></p>	<p>Azionare la funzione di svitamento sulla macchina per rimuovere l'utensile dalla bussola.</p> <p><i>Set the machine on reverse running and unscrew the tool out of the insert.</i></p>

\*Per la serie KN-KNH vedere pag. 21 / For KN-KNH series read page 21.

# BUSSOLE AUTOFILETTANTI TIPO F212

Dotate di fenditura tagliente permettono elevata tenuta a trazione e taglio.  
Idonee per metalli, leghe leggere, ottone, rame, plastica, laminati, compositi.

## SELF-TAPPING THREADED INSERTS F212 TYPE

Designed with a cutting slot, it achieves high pull-out and shear strength  
Suitable for metals, light alloys, brass, bronze, copper, plastics, laminates and composites

## SELBSTSCHNEIDENDE GEWINDEBUCHSEN TYP F212

Mit einem schneidenden Schlitz versehen und hohen Zug und Scherfestigkeits-Werte.  
Geeignet für Metalle, Leichte Legierungen, Messing, Kunststoffe, Kupfer, Laminate und Karbonfaser

## DOUILLES AUTOTARAUDEUSES TYPE F212

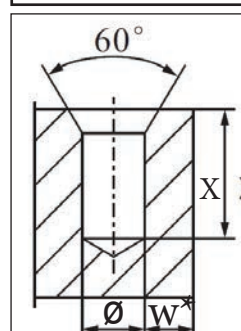
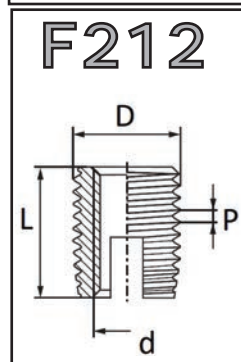
Equipées d'une fente coupante, elles permettent une tenue élevée à l'arrachement et à la coupe.

Conviennent pour les métaux, les alliages légers, le laiton,  
le bronze, le cuivre, les plastiques, les stratifiés et les composites.

## INSERTOS ROSCADOS AUTOTALADRANTES TIPO F212

Diseñados con extremo cortante consiguen una elevada resistencia tanto a tracción como a cizalla.

Adecuados para metales, aleaciones ligeras, latón, plástico, laminados y composites.



ACCIAIO STEEL	INOX STAINLESS STEEL	INOX 316L STAINLESS STEEL 316L	d FILETTO INTERNO INTERNAL THREAD	D FILETTO EST. EXT. TH- READ	P PASSO EST. EXT. PITCH	∅ foro hole METALLI METALS	∅ foro hole PLASTICHE TENERE / SOFT PLASTICS	∅ foro hole PLASTICHE DURE / HARD PLASTICS	X	L
83ACF212M02	83IXF212M02	83IXA4F212M02	M2 x 0,4	4,5	0,5	4,2 - 4,3	4,1	4,1 - 4,2	8	6
83ACF212M02.5	83IXF212M02.5	83IXA4F212M02.5	M2,5 x 0,45	4,5	0,5	4,2 - 4,3	4,1	4,1 - 4,2	8	6
83ACF212M03	83IXF212M03	83IXA4F212M03	M3 x 0,5	5,0	0,5	4,7 - 4,8	4,6	4,6 - 4,7	8	6
83ACF212M04	83IXF212M04	83IXA4F212M04	M4 x 0,7	6,5	0,75	6,1 - 6,2	5,9 - 6,0	6,0 - 6,1	10	8
83ACF212M05	83IXF212M05	83IXA4F212M05	M5 x 0,8	8,0	1,0	7,5 - 7,6	7,2 - 7,3	7,3 - 7,5	13	10
83ACF212M06A	83IXF212M06A	83IXA4F212M06A	M6 x 1,0	9,0	1,0	8,5 - 8,6	8,2 - 8,3	8,3 - 8,5	15	12
83ACF212M06	83IXF212M06	83IXA4F212M06	M6 x 1,0	10,0	1,5	9,2 - 9,4	8,8 - 9,0	8,9 - 9,2	17	14
83ACF212M08	83IXF212M08	83IXA4F212M08	M8 x 1,25	12,0	1,5	11,2 - 11,4	10,8 - 11,0	10,9 - 11,2	18	15
83ACF212M10	83IXF212M10	83IXA4F212M10	M10 x 1,5	14,0	1,5	13,2 - 13,4	12,8 - 13,0	12,9 - 13,2	22	18
83ACF212M12	83IXF212M12	83IXA4F212M12	M12 x 1,75	16,0	1,5	15,2 - 15,4	14,8 - 15,0	14,9 - 15,2	26	22
83ACF212M14	83IXCF212M14	83IXA4CF212M14	M14 x 2,0	18,0	1,5	17,2 - 17,4	16,8 - 17,	16,9 - 17,2	28	24
83ACF212M16	83IXCF212M16	83IXA4CF212M16	M16 x 2,0	20,0	1,5	19,2 - 19,4	18,8 - 19,0	18,9 - 19,2	27	22
83ACF212M18	83IXCF212M18	83IXA4CF212M18	M18 x 2,5	22,0	1,5	21,2 - 21,4	20,8 - 21,0	16,9 - 17,2	29	24
83ACF212M20	83IXCF212M20	83IXA4CF212M20	M20 x 2,5	26,0	1,5	25,2 - 25,4	24,8 - 25,0	18,9 - 19,2	32	27

### Materiali/materials:

- acciaio temprato zincato / case hardened zinc-plated steel
- acciaio inox AISI 303 (1.4305) / stainless steel AISI 303 (1.4305)
- acciaio inox AISI 316L (1.4404) a richiesta / stainless steel AISI 316L (1.4404) on demand.

W Distanza minima dal bordo: lega leggera  $W \geq 0.2 \times D$ ; Ghise  $W \geq 0.3 \times D$ ; Plastiche  $W \geq 0.25 \times D$

W Min. edge distance: light alloy  $W \geq 0.2 \times D$ ; Cast iron  $W \geq 0.3 \times D$ ; Plastics  $W \geq 0.25 \times D$

Es. 83ACF212M06 (D=10mm) lega leggera  $W \geq 2\text{mm}$ ; Ghise  $W \geq 3\text{mm}$ ; Plastiche  $W \geq 2,5\text{mm}$

Ex. 83ACF212M06 (D=10mm) light alloy  $W \geq 2\text{mm}$ ; Cast iron  $W \geq 3\text{mm}$ ; Plastics  $W \geq 2,5\text{mm}$

# BUSSOLE AUTOFILETTANTI TIPO F303

Dotate di fenditura tagliente, è una versione speciale con diametro esterno e lunghezza ridotte rispetto alla serie F212. Indicate per applicazioni con distanza dal bordo minima.

## SELF-TAPPING THREADED INSERTS F303 TYPE

Designed with a cutting slot, it is a special version with reduced external diameter and length than F212 series. Suitable for application with minimal residual distance from the edge.

## SELBSTSCHNEIDENDE GEWINDEBUCHSEN TYP F303

Mit einem schneidenden Schlitz versehen, es handelt sich um eine Sonderversion mit Sonder Außendurchmesser und Sonderlänge zu Serie F212.

## DOUILLES AUTOTARAUEUSES TYPE F303

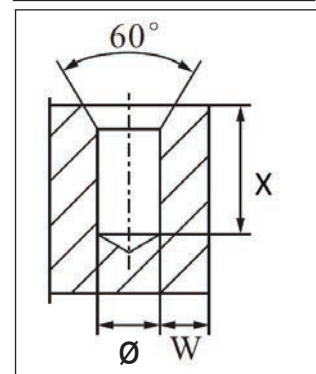
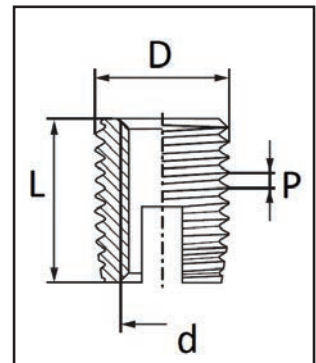
Equipées d'une fente coupante, il s'agit d'une version spéciale avec diamètre extérieure et longueur réduits par rapport à la version F212. Convient pour des installations avec distance réduite du bord.

## INSERTOS ROSCADOS AUTOTALADRANTES TIPO F303

Diseñados con extremo cortante, consiguen una elevada resistencia tanto a tracción como a cizalla, son una versión especial con diámetro exterior y longitud inferiores a la serie F212.

Adecuados para instalaciones con limitación de distancia en el borde.

# F303



ACCIAIO STEEL	INOX STAINLESS STEEL	d FILETTO INT. INT. THREAD	D FILETTO EST. EXT. THREAD	P PASSO EST. EXT. PITCH	Ø foro hole METALLI / METALS	Ø foro hole PLASTICHE / PLASTICS	X	L
83ACF303M03	83IXF303M03	M3 x 0,5	4,5	0,5	4,2 - 4,3	4,1 - 4,2	8	6
83ACF303M04	83IXF303M04	M4 x 0,7	6,0	0,7	5,6 - 5,7	5,5 - 5,6	8	6
83ACF303M05	83IXF303M05	M5 x 0,8	7,0	0,8	6,6 - 6,7	6,5 - 6,6	10	8
83ACF303M06	83IXF303M06	M6 x 1,0	8,0	1,0	7,5 - 7,6	7,3 - 7,5	13	10
83ACF303M08	83IXF303M08	M8 x 1,25	10,0	1,25	9,2 - 9,4	8,9 - 9,2	15	12
83ACF303M10	83IXF303M10	M10 x 1,5	12,0	1,5	11,2 - 11,4	10,9 - 11,2	18	15

### Materiali/materials:

- acciaio temprato zincato / case hardened zinc-plated steel
- acciaio inox AISI 303 (1.4305) / stainless steel AISI 303 (1.4305)

**W** Distanza minima dal bordo: lega leggera  $W \geq 0.2 \times D$ ; Ghise  $W \geq 0.3 \times D$ ; Plastiche  $W \geq 0.25 \times D$

**W** Min edge distance: light alloy  $W \geq 0.2 \times D$ ; Cast iron  $W \geq 0.3 \times D$ ; Plastics  $W \geq 0.25 \times D$

Es.: 83ACF303M06 (D=8.0 mm) lega leggera  $W \geq 1.6$  mm; Ghise  $W \geq 2.4$  mm; Plastiche  $W \geq 2$  mm

Ex.: 83ACF303M06 (D=8.0 mm) light alloy  $W \geq 1.6$  mm; Cast iron  $W \geq 2.4$  mm; Plastics  $W \geq 2$  mm

# BUSSOLE AUTOFILETTANTI TIPO F318

Dotate di 3 fori taglienti aperti, disponibili in 2 lunghezze per ogni dimensione della filettatura interna. Idonee per essere montate su spessori ridotti.

## SELF-TAPPING THREADED INSERTS F318 TYPE

Designed with 3 open cutting holes, available in 2 lengths for each internal thread size.

Suitable for application on thin receiving materials.

## SELBSTSCHNEIDENDE GEWINDEBUCHSEN TYP F318

Mit 3 schneidende offene Löcher versehen, lieferbar in 2 Längen je Gewindemaß.

Geeignet für geringe Metallstärken.

## DOUILLES AUTOTARAUDEUSES TYPE F318

Equipées de 3 trous coupants, disponibles en 2 longueurs pour chaque taille de filetage intérieur.

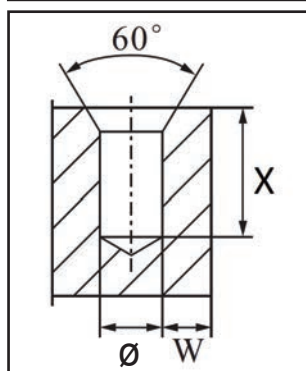
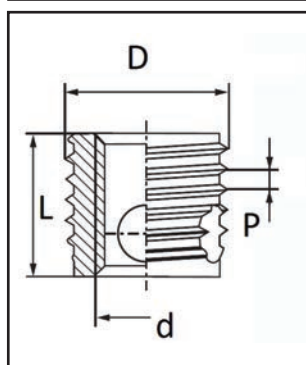
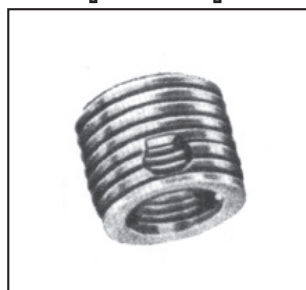
Convient pour un montage sur des épaisseurs réduites.

## INSERTOS ROSCADOS AUTOTALADRANTES TIPO F318

Diseñados con 3 troqueles abiertos perforantes, disponibles en 2 longitudes para cada tamaño de rosca interior. Adecuados para montaje en espesores reducidos.

# F 318

fori aperti / open holes



ACCIAIO STEEL	INOX STAINLESS STEEL	d FILETTO INT. INT. THREAD	D FILETTO EST. EXT. THREAD	P PASSO EST. EXT. PITCH	Ø foro hole METALLI/ METALS	Ø foro hole PLASTICHE/ PLASTICS	X	L
83ACF318M03-C	83IXF318M03-C	M3 x 0,5	5,0	0,6	4,7 - 4,8	4,6 - 4,7	6	4
83ACF318M03-L	83IXF318M03-L						8	6
83ACF318M04-C	83IXF318M04-C	M4 x 0,7	6,5	0,8	6,1 - 6,2	6,0 - 6,1	8	6
83ACF318M04-L	83IXF318M04-L						10	8
83ACF318M05-C	83IXF318M05-C	M5 x 0,8	8,0	1,0	7,6 - 7,7	7,4 - 7,6	9	7
83ACF318M05-L	83IXF318M05-L						13	10
83ACF318M06-C	83IXF318M06-C	M6 x 1,0	10,0	1,25	9,5 - 9,6	9,3 - 9,5	10	8
83ACF318M06-L	83IXF318M06-L						15	12
83ACF318M08-C	83IXF318M08-C	M8 x 1,25	12,0	1,5	11,3 - 11,5	11,1 - 11,3	11	9
83ACF318M08-L	83IXF318M08-L						17	14
83ACF318M10-C	83IXF318M10-C	M10 x 1,5	14,0	1,5	13,4 - 13,5	13,1 - 13,3	13	10
83ACF318M10-L	83IXF318M10-L						22	18
83ACF318M12-C	83IXF318M12-C	M12 x 1,75	16,0	1,75	15,2 - 15,4	15,0 - 15,2	15	12
83ACF318M12-L	83IXF318M12-L						26	22
83ACF318M14-C	83IXF318M14-C	M14 x 2,0	18,0	2,0	17,2 - 17,4	17,0 - 17,2	17	14
83ACF318M14-L	83IXF318M14-L						28	24
83ACF318M16-C	83IXF318M16-C	M16 x 2,0	20,0	2,0	19,2 - 19,4	19,0 - 19,2	17	14
83ACF318M16-L	83IXF318M16-L						28	24

### Materiali/materials:

- acciaio temprato zincato / case hardened zinc-plated steel
- acciaio inox AISI 303 (1.4305) / stainless steel AISI 303 (1.4305)

W Distanza minima dal bordo: lega leggera  $W \geq 0.2 \times D$ ; Ghise  $W \geq 0.3 \times D$ ; Plastiche  $W \geq 0.25 \times D$

W Min edge distance: light alloy  $W \geq 0.2 \times D$ ; Cast iron  $W \geq 0.3 \times D$ ; Plastics  $W \geq 0.25 \times D$

Es.: 83IXF318M08-C (D=12.0 mm) lega leggera  $W \geq 2.4$  mm; Ghise  $W \geq 3.6$  mm; Plastiche  $W \geq 3$  mm

Ex.: 83IXF318M08-C (D=12.0 mm) light alloy  $W \geq 2.4$  mm; Cast iron  $W \geq 3.6$  mm; Plastics  $W \geq 3$  mm

# BUSSOLE AUTOFILETTANTI TIPO F318-FC

Dotate di 3 fori taglienti chiusi, che hanno la funzione di raccogliere gli sfridi del processo di installazione. Indicate nelle applicazioni dove occorre avere un foro pulito da residui (es. elettronica).

## SELF-TAPPING THREADED INSERTS F318-FC TYPE

Designed with 3 closed cutting holes to retain the meal swarf during the installation process. Suitable in applications where a clean hole is required (i.e. electronics).

## SELBSTSCHNEIDENDE GEWINDEBUCHSEN TYP F318-FC

Mit 3 schneidende offene Löcher versehen, diese dienen um die Installations- Metallabfälle aufzufangen. Geeignet für Anwendungen wo es notwendig ist ein Sauberes Loch zu haben (z.B. Elektronik).

## DOUILLES AUTOTARAUDEUSES TYPE F318-FC

Equipées de 3 trous coupants fermés, ayant le but de collecter les déchets du processus d'installation. Conviennent aux applications où il est nécessaire d'avoir un trou sans résidus (par ex. électronique).

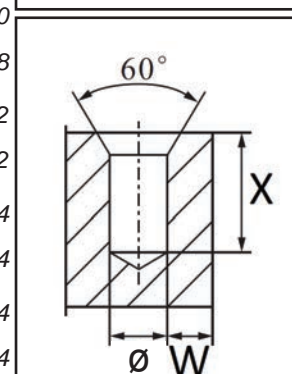
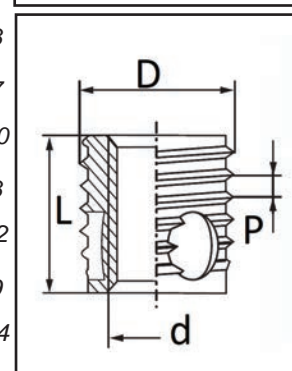
## INSERTOS ROSCADOS AUTOTALADRANTES TIPO F318-FC

Diseñados con 3 troqueles perforantes cerrados, para recoger las rebabas generadas en la instalación. Adecuados para montaje en aplicaciones en las que es necesario tener una perforación sin residuos (p.e. electrónica).

# F 318-FC

fori ciechi / blind holes

ACCIAIO STEEL	INOX STAINLESS STEEL	d FILETTO INT. INT. THREAD	D FILETTO EST. EXT. THREAD	P PASSO EST. EXT. PITCH	∅ foro hole METALLI / METALS	∅ foro hole PLASTICHE / PLASTICS	X	L
83ACF318M03-CFC	83IXF318M03-CFC	M3 x 0,5	5	0,6	4,7 - 4,8	4,7 - 4,8	6	4
83ACF318M03-LFC	83IXF318M03-LFC						8	6
83ACF318M04-CFC	83IXF318M04-CFC	M4 x 0,7	6,5	0,8	6,1 - 6,2	6,1 - 6,2	8	6
83ACF318M04-LFC	83IXF318M04-LFC						10	8
83ACF318M05-CFC	83IXF318M05-CFC	M5 x 0,8	8,0	1,0	7,6 - 7,7	7,6 - 7,7	9	7
83ACF318M05-LFC	83IXF318M05-LFC						13	10
83ACF318M06-CFC	83IXF318M06-CFC	M6 x 1,0	10,0	1,25	9,5 - 9,6	9,5 - 9,6	10	8
83ACF318M06-LFC	83IXF318M06-LFC						15	12
83ACF318M08-CFC	83IXF318M08-CFC	M8 x 1,25	12,0	1,5	11,4 - 11,5	11,4 - 11,5	11	9
83ACF318M08-LFC	83IXF318M08-LFC						17	14
83ACF318M10-CFC	83IXF318M10-CFC	M10 x 1,5	14,0	1,5	13,4 - 13,5	13,4 - 13,5	13	10
83ACF318M10-LFC	83IXF318M10-LFC						22	18
83ACF318M12-CFC	83IXF318M12-CFC	M12 x 1,75	16,0	1,75	15,3 - 15,4	15,3 - 15,4	15	12
83ACF318M12-LFC	83IXF318M12-LFC						26	22
83ACF318M14-CFC	83IXF318M14-CFC	M14 x 2,0	18,0	2,0	17,3 - 17,4	17,3 - 17,4	17	14
83ACF318M14-LFC	83IXF318M14-LFC						28	24
83ACF318M16-CFC	83IXF318M16-CFC	M16 x 2,0	20,0	2,0	19,3 - 19,4	19,3 - 19,4	17	14
83ACF318M16-LFC	83IXF318M16-LFC						28	24



### Materiali/materials:

- acciaio temprato zincato / case hardened zinc-plated steel
- acciaio inox AISI 303 (1.4305) / stainless steel AISI 303 (1.4305)

W Distanza minima dal bordo: lega leggera  $W \geq 0,2 \times D$ ; Ghise  $W \geq 0,3 \times D$ ; Plastiche  $W \geq 0,25 \times D$

W Min edge distance: light alloy  $W \geq 0,2 \times D$ ; Cast iron  $W \geq 0,3 \times D$ ; Plastics  $W \geq 0,25 \times D$

Es.: 83IXF318M08-CFC (D=12.0 mm) lega leggera  $W \geq 2,4$  mm; Ghise  $W \geq 3,6$  mm; Plastiche  $W \geq 3$  mm

Ex.: 83IXF318M08-CFC (D=12.0 mm) light alloy  $W \geq 2,4$  mm; Cast iron  $W \geq 3,6$  mm; Plastics  $W \geq 3$  mm

# BUSSOLE AUTOFILETTANTI TIPO FXSCTB

Le bussole autofilettanti FXSCTB vengono avvitate sia su termoplastici sia su termoindurenti.

E' ottima la loro tenuta al taglio ed alla trazione. Disponibili in ottone.

## SELF-TAPPING THREADED INSERTS FXSCTB TYPE

FXSCTB are self-tapping threaded inserts suitable for thermoplastic and thermosetting materials.

High pull-out resistance. Available in brass.

## SELBSTSCHNEIDENDE GEWINDEBUCHSEN TYP FXSCTB

Die selbstschneidende Gewindebuchsen FXSCTB werden verschraubt in Duroplaste wie auch in Thermoplaste.

Sehr hohe Zug- und Scherfestigkeit. Verfügbar in Messing.

## DOUILLES AUTOTARAUDEUSES TYPE FXSCTB

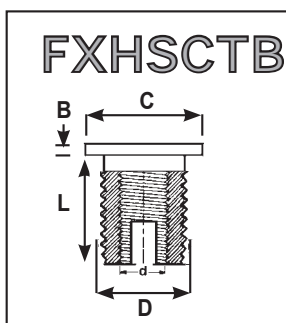
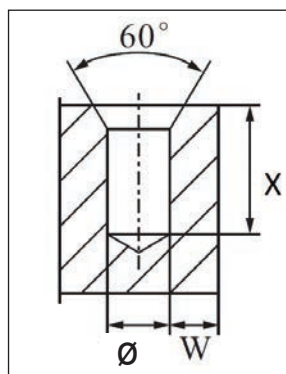
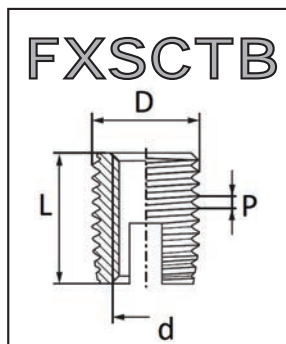
Les douilles autotaraudeuses FXSCTB peuvent être vissées sur thermoplastiques et sur thermodurcissables.

Excellente tenue à l'arrachement et au cisaillement. Disponibles en laiton.

## INSERTOS ROSCADOS AUTOTALADRANTES TIPO FXSCTB

FXSCTB se pueden instalar en termoplásticos y termoendurentes.

Excelent resistencia a la tracción y cizalla. Disponibles en latón.



OTTONE BRASS	d FILETTO INT. INT. THREAD	D FILETTO EST. EXT. THREAD	P PASSO EST. EXT. PITCH	∅ foro hole PLASTICHE TENERE / SOFT PLASTICS	∅ foro hole PLASTICHE DURE / HARD PLASTICS	X	L
83FXSCTBM02	M2 x 0,4	4,5	0,5	4,1	4,1 - 4,2	8	6
83FXSCTBM02.5	M2,5 x 0,45	4,5	0,5	4,1	4,1 - 4,2	8	6
83FXSCTBM03	M3 x 0,5	5,0	0,5	4,6	4,6 - 4,7	8	6
83FXSCTBM04	M4 x 0,7	6,5	0,75	5,9 - 6,0	6,0 - 6,1	10	8
83FXSCTBM05	M5 x 0,8	8,0	1,0	7,2 - 7,3	7,3 - 7,5	13	10
83FXSCTBM06A	M6 x 1,0	9,0	1,0	8,2 - 8,3	8,3 - 8,5	15	12
83FXSCTBM06	M6 x 1,0	10,0	1,5	8,8 - 9,0	8,9 - 9,2	17	14
83FXSCTBM08	M8 x 1,25	12,0	1,5	10,8 - 11,0	10,9 - 11,2	18	15
83FXSCTBM10	M10 x 1,5	14,0	1,5	12,8 - 13,0	12,9 - 13,2	22	18
83FXSCTBM12	M12 x 1,75	16,0	1,5	14,8 - 15,0	14,9 - 15,2	26	22
83FXSCTBM14	M14 x 2,0	18,0	1,5	16,8 - 17,0	16,9 - 17,2	28	24
83FXSCTBM16	M16 x 2,0	20,0	1,5	18,8 - 19,0	18,9 - 19,2	27	22
83FXSCTBM18	M18 x 2,5	22,0	1,5	20,8 - 21,0	16,9 - 17,2	29	24
83FXSCTBM20	M20 x 2,5	26,0	1,5	24,8 - 25,0	18,9 - 19,2	32	27

OTTONE BRASS	d FILETTO INT. INT. THREAD	D FILETTO EST. EXT. THREAD	P PASSO EST. EXT. PITCH	∅ foro hole PLASTICHE TENERE / SOFT PLASTICS	∅ foro hole PLASTICHE DURE / HARD PLASTICS	X	L	C	B
83FXHSCTBM02.5	M2,5 x 0,45	4,5	0,5	4,1	4,1 - 4,2	8	6	6	0,58
83FXHSCTBM03	M3 x 0,5	5,0	0,5	4,6	4,6 - 4,7	8	6	6,5	0,58
83FXHSCTBM04	M4 x 0,7	6,5	0,75	5,9 - 6,0	6,0 - 6,1	10	8	8	0,89
83FXHSCTBM05	M5 x 0,8	8,0	1,0	7,2 - 7,3	7,3 - 7,5	13	10	9,5	1,06
83FXHSCTBM06A	M6 x 1,0	9,0	1,0	8,2 - 8,3	8,3 - 8,5	15	12	12,5	1,32
83FXHSCTBM06	M6 x 1,0	10,0	1,5	8,8 - 9,0	8,9 - 9,2	17	14	12	1,32
83FXHSCTBM08	M8 x 1,25	12,0	1,5	10,8 - 11,0	10,9 - 11,2	18	15	14	1,32
83FXHSCTBM10	M10 x 1,5	14,0	1,5	12,8 - 13,0	12,9 - 13,2	22	18	16	1,57
83FXHSCTBM12	M12 x 1,75	16,0	1,5	14,8 - 15,0	14,9 - 15,2	26	22	18	1,57

### Materiali/materials:

- ottone / brass

W Distanza minima dal bordo: lega leggera  $W \geq 0.2 \times D$ ; Ghise  $W \geq 0.3 \times D$ ; Plastiche  $W \geq 0.25 \times D$

W Min edge distance: light alloy  $W \geq 0.2 \times D$ ; Cast iron  $W \geq 0.3 \times D$ ; Plastics  $W \geq 0.25 \times D$

Es.: 83FXSCTBM06 (D=10.0 mm) lega leggera  $W \geq 2$  mm; Ghise  $W \geq 3$  mm; Plastiche  $W \geq 2.5$  mm

Ex.: 83FXSCTBM06 (D=10.0 mm) light alloy  $W \geq 2$  mm; Cast iron  $W \geq 3$  mm; Plastics  $W \geq 2.5$  mm

# BUSSOLE AUTOFILETTANTI TIPO FXF309

Le bussole autofilettanti FXF309 vengono avvitate su materiali plastici, legno e compositi. E' ottima la loro tenuta al taglio ed alla trazione. Disponibili in ottone. Altri materiali a richiesta.

## SELF-TAPPING THREADED INSERTS FXF309 TYPE

FXF309 are self-tapping inserts suitable for plastic materials, wood and composites.

Extremely high levels of pull-out and torque-out resistance. Available in Brass. Other materials on demand.

## SELBSTSCHNEIDENDE GEWINDEBUCHSEN TYP FXF309

Die selbstschneidende Gewindebuchsen Typ FXF309 werden in Kunststoff, Holz oder Karbonfaser eingeschraubt. Sehr hohe Zug- und Scherfestigkeit. Verfügbar in Messing. Andere Materialien auf Anfrage lieferbar.

## DOUILLES AUTOTARAUEUSES TYPE FXF309

Les douilles autotaraueuses FXF309 peuvent être vissées sur matières plastiques, bois et composites.

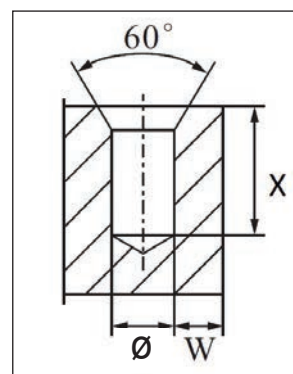
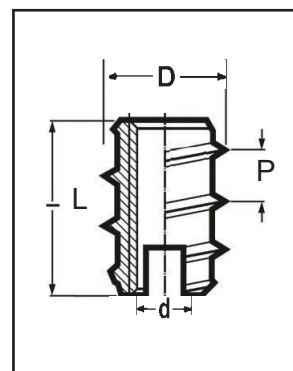
Excellente résistance à l'arrachement et au cisaillement. Disponibles en laiton. Autres matières disponibles sur demande.

## INSERTOS ROSCADOS AUTOTALADRANTES TIPO FXF309

FXF309 son insertos auto-roscantes para materiales plásticos, madera, y composites.

Niveles muy altos de resistencia de extracción y par de apriete. Disponible en latón.

Otros materiales bajo demanda.



CODICE CODE FXF309	d FILETTO INT. INT. THREAD	D FILETTO EST. EXT. THREA	P PASSO EST. EXT. PITCH	Ø foro hole	X	L
83FXF309M03	M 3 x 0,5	5,5	1,6	4,1 - 4,3	9	6
83FXF309M04	M 4 x 0,7	7	2,5	5,1 - 5,3	13	10
83FXF309M05	M 5 x 0,8	9	3	6,6 - 6,9	15	12
83FXF309M06	M 6 x 1	10	4	7,6 - 7,9	17	14
83FXF309M08	M 8 x 1,25	13	4	9,9 - 10,3	23	20
83FXF309M10	M 10 x 1,5	16	5	12,4 - 12,8	26	23
83FXF309M12	M 12 x 1,75	19	5	15,4 - 15,8	30	26

### Materiali/materials:

- ottone / brass

W Distanza minima dal bordo: Plastiche  $W \geq 0.25 \times D$

W Min edge distance: Plastics  $W \geq 0.25 \times D$

Es.: 83FXF309M06 (D=10.0 mm) Plastiche  $W \geq 2.5$  mm

Ex.: 83FXF309M06 (D=10.0 mm) Plastics  $W \geq 2.5$  mm

# BUSSOLE AUTOFILETTANTI TIPO BF-BZ

## INSERIMENTO CON UTENSILE MANUALE O UTENSILE A MACCHINA

Le bussole autofilettanti BF-BZ vengono avvitate su materiali plastici, legno e compositi.

E' ottima la loro tenuta al taglio ed alla trazione. Disponibili in ferro (BF) o zama (BZ).

**SELF-TAPPING THREADED INSERTS BF-BZ TYPE.**

**INSTALLATION WITH HAND TOOL OR TAPPING MACHINE**

BF-BZ are self-tapping inserts suitable for plastic materials, wood and composites.

Extremely high levels of pull-out and torque-out resistance. Available in steel or zamak.

**SELBSTSCHNEIDENDE BUCHSEN TYP BF-BZ. EINSATZ DURCH MANUELLES WERKZEUG ODER DURCH GEWINDEBOHRMASCHINE**

Die selbstschneidende Buchsen Typ BF-BZ werden in Kunststoffe, Holz oder Carbonfaser eingeschraubt.

Sehr hohe Zug- und Scherfestigkeit. Verfügbar in Stahl und Zamak.

**DOUILLES AUTOTARAUEUSES TYPE BF-BZ.**

**INSERTION MANUELLE OU A LA MACHINE**

Les douilles autotaraudeuses BF-BZ peuvent être vissées sur matières plastiques, bois et composites.

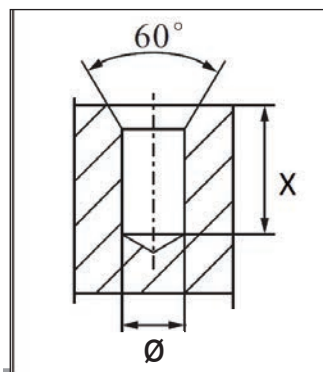
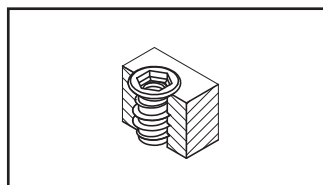
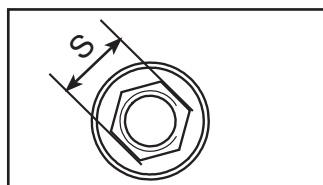
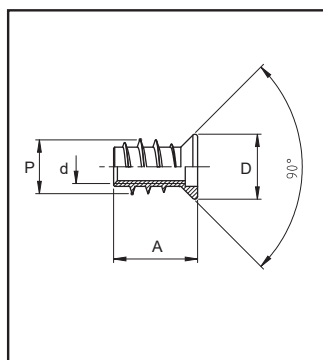
Excellente résistance à l'arrachement et au cisaillement. Disponible en acier (BF) ou en zamak (BZ).

**INSERTOS ROSCADOS AUTOTALADRANTES TIPO BF-BZ.**

**INSTALACION CON UTENSILIO MANUAL O MAQUINA AUTOMATICA**

BF-BZ son insertos auto-rosantes para materiales plásticos, madera, y composites.

Niveles muy altos de resistencia de extracción y par de apriete. Disponible en acero y zamak.



FERRO STEEL	ZAMA ZAMAK	d FILETTO INT. INT. THREAD	P	Ø foro hole	D	X	A	S
86BFM410	86BZM410	M4 x 0,7	8	5,5 - 6,0	9	13	10	4
86BFM513	86BZM513	M5 x 0,8	10	7,7 - 8,2	12	16	13	5
86BFM612	86BZM612	M6 x 1,0				15	12	
86BFM613	86BZM613	M6 x 1,0				16	13	
86BFM614	86BZM614	M6 x 1,0				17	14	
86BFM615	86BZM615	M6 x 1,0	10	7,7 - 8,2	12	18	15	6
86BFM617	86BZM617	M6 x 1,0				20	17	
86BFM620	86BZM620	M6 x 1,0				23	20	
86BFM624	86BZM624	M6 x 1,0				27	24	
86BFM813	86BZM813	M8 x 1,25				16	13	
86BFM815	86BZM815	M8 x 1,25				18	15	
86BFM817	86BZM817	M8 x 1,25				20	17	
86BFM820	86BZM820	M8 x 1,25	12,5	9,7 - 10,2	14	23	20	8
86BFM822	86BZM822	M8 x 1,25				25	22	
86BFM824	86BZM824	M8 x 1,25				27	24	
86BFM828	86BZM828	M8 x 1,25				31	28	
86BFM1016	86BZM1016	M10 x 1,5				20	16	
86BFM1017	86BZM1017	M10 x 1,5				21	17	
86BFM1018	86BZM1018	M10 x 1,5	15,3	12,4 - 12,9	17	22	18	10
86BFM1020	86BZM1020	M10 x 1,5				24	20	
86BFM1025	86BZM1025	M10 x 1,5				29	25	



# ATTREZZATURE PER BUSSOLE AUTOFILETTANTI

TOOLS FOR SELF-TAPPING INSERTS

EINDREHWERKZEUGE FÜR SELBSTSCHNEIDENDE

GEWINDEBUCHSEN

ÉQUIPEMENT POUR DOUILLES AUTOTARADEUSES

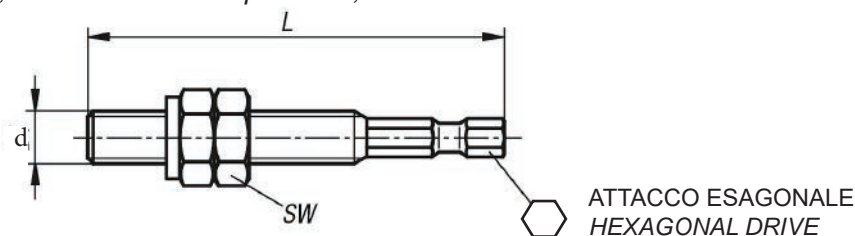
HERRAMIENTAS PARA INSTALACION DE INSERTOS ROSCADOS


AUTOTALADRANTES

## UTENSILE MANUALE / MANUAL TOOL

Con attacco esagonale, da usare con giramaschi, avvitatore elettrico o utensile similare.

With hexagonal drive, to be used with a tap wrench, a cordless screwdriver or similar tool.

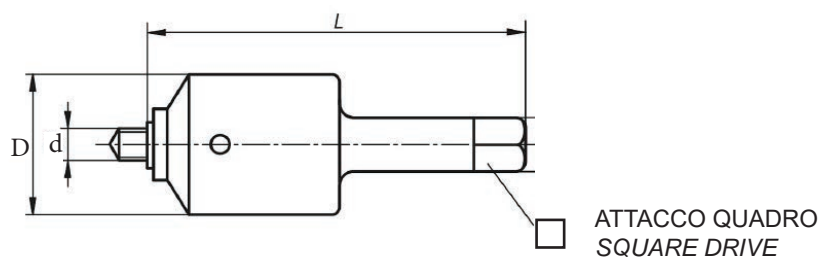



CODICE CODE	d	L		SW	Forza di installazione Tightening Torque (Nm)
83UTH03	M3	46	1/4	5,5	2,5
83UTH04	M4	48	1/4	7	5,5
83UTH05	M5	57	1/4	8	10
83UTH06	M6	62	1/4	10	15
83UTH08	M8	72	1/4	13	28
83UTH10	M10	82	1/4	17	40
83UTH12	M12	92	1/4	19	60

## UTENSILE A MACCHINA / MACHINE TOOL

Con attacco a base quadrata, da usare con motori elettrici o pneumatici dotati di frizione (es. maschiatori).

With square drive, to be used with electric or pneumatic tools like thread-cutting machines.

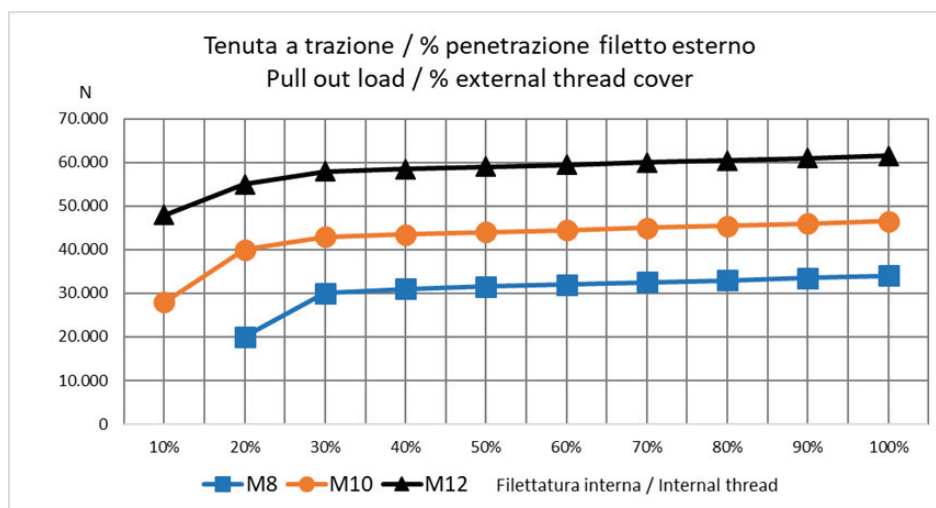


CODICE CODE	d	L		SW	D	Forza di installazione Tightening Torque (Nm)	Giri al minuto Rounds per minute (RPM)
83UTM03	M3	80	6		18	2,5	650 - 900
83UTM04	M4	80	6		18	5,5	400 - 600
83UTM05	M5	96,5	10		30	10	400 - 600
83UTM06	M6	96,5	10		30	15	280 - 400
83UTM08	M8	110	10		30	28	280 - 400
83UTM10	M10	110	10		40	40	200 - 300
83UTM12	M12	110	10		40	60	200 - 300

Diametro foro raccomandato / Recommended drilling diameter								
		Bussole con intaglio (F212, F303) Self-tapping inserts with cutting slots (F212, F303)				Bussole con fori maschianti (F318, F318-FC) Self-tapping inserts with cutting holes (F318, F318-FC)		
Materiale / Material	Leghe leggere / Light metal alloys Resistenza a trazione / Tensile strength $R_m=N/mm^2$	<div style="display: flex; justify-content: space-between;"> <span style="background-color: #e0f2f1; padding: 2px;">&lt; 250 Rm</span> <span style="background-color: #bbdefb; padding: 2px;">&lt; 300 Rm</span> <span style="background-color: #9575cd; padding: 2px;">&lt; 350 Rm</span> <span style="background-color: #e57373; padding: 2px;">&gt; 350 Rm</span> </div>				<div style="display: flex; justify-content: space-between;"> <span style="background-color: #bbdefb; padding: 2px;">&lt; 300 Rm</span> <span style="background-color: #9575cd; padding: 2px;">&lt; 350 Rm</span> <span style="background-color: #e57373; padding: 2px;">&gt; 350 Rm</span> </div>		
	Ottone, metalli non ferrosi, bronzo Brass, non-ferrous metal, bronze	> 350 Rm				> 350 Rm		
	Ghisa / Cast Iron Durezza Brinell / Brinell hardness (HB)	<div style="display: flex; justify-content: space-between;"> <span style="background-color: #e0f2f1; padding: 2px;">&lt; 150 HB</span> <span style="background-color: #9575cd; padding: 2px;">&lt; 200 HB</span> <span style="background-color: #fff9c4; padding: 2px;">&gt; 200 HB</span> </div>				<div style="display: flex; justify-content: space-between;"> <span style="background-color: #e0f2f1; padding: 2px;">&lt; 150 HB</span> <span style="background-color: #9575cd; padding: 2px;">&lt; 200 HB</span> <span style="background-color: #fff9c4; padding: 2px;">&gt; 200 HB</span> </div>		
Filettatura interna / Internal thread	M3	-	4,6 mm	4,7 mm	4,8 mm	4,6 mm	4,7 mm	4,8 mm
	M4	5,9 mm	6,0 mm	6,1 mm	6,2 mm	6,0 mm	6,1 mm	6,2 mm
	M5	7,2 mm	7,3 mm	7,5 mm	7,6 mm	7,4 mm	7,5 mm	7,6 mm
	M6	8,8 mm	9,0 mm	9,2 mm	9,4 mm	9,3 mm	9,4 mm	9,5 mm
	M8	10,8 mm	11,0 mm	11,2 mm	11,4 mm	11,1 mm	11,2 mm	11,3 mm
	M10	12,8 mm	13,0 mm	13,2 mm	13,4 mm	13,1 mm	13,2 mm	13,3 mm
	M12	14,8 mm	15,0 mm	15,2 mm	15,4 mm	15,0 mm	15,1 mm	15,2 mm
	M16	18,8 mm	19,0 mm	19,2 mm	19,4 mm	19,0 mm	19,1 mm	19,2 mm
	M18	20,8 mm	21,0 mm	21,2 mm	21,4 mm			
	M20	24,8 mm	25,0 mm	25,2 mm	25,4 mm			
	M22	24,8 mm	25,0 mm	25,2 mm	25,4 mm			
	M24	28,8 mm	29,0 mm	29,2 mm	29,4 mm			
	M26	32,8 mm	33,0 mm	33,2 mm	33,4 mm			
M30	34,8 mm	35,0 mm	35,2 mm	35,4 mm				
Copertura della flangia / Thread cover		60%	50%	40%	30%	80%	70%	60%

Il seguente grafico dimostra come in un materiale ricevente come la lega leggera, le bussole autofilettanti FIXI raggiungono il massimo della tenuta a trazione già con solo il 30% di copertura del filetto esterno nel materiale.

The following chart shows as in light alloy the self-tapping inserts reach the maximum pull-out strength with only 30% of the thread cover.





## **BUSSOLE SPECIALI**

*SPECIAL THREADED INSERTS*

*SONDER GEWINDEBUCHSEN*

*DOUILLES SPÉCIALES*

*INSERTOS ROSCADOS ESPECIALES*

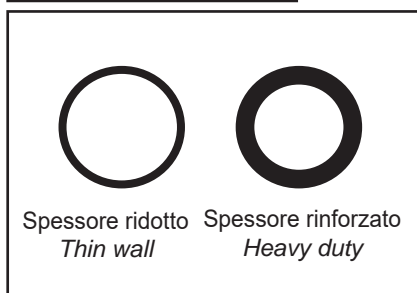
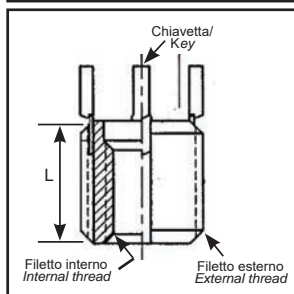
# BUSSOLE CON CHIAVETTE DI ANCORAGGIO

KEY LOCKING INSERTS

SPERRKEIL GEWINDEEINSATZ

INSERTS DE VERROUILLAGE DES CLÉS

INSERTOS CON LLAVE DE BLOQUEO

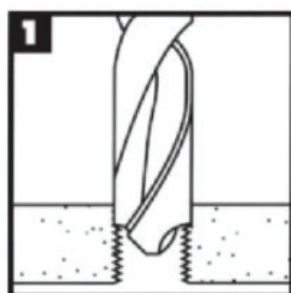


Le bussole KN-KNH hanno 2 o 4 chiavette di ancoraggio\* che, una volta posizionate, rendono l'inserto meccanicamente bloccato contro lo svitamento da rotazione o vibrazione. Le chiavette vengono spinte nelle apposite sedi con l'ausilio di un punzone o di un martello (Vd. fig. 4 Installazione). Disponibili in versione con spessore ridotto o con spessore rinforzato per elevate prestazioni. Vengono utilizzate per ottenere filettature ad elevata resistenza su differenti materiali, dalle leghe leggere agli acciai o per riparare filettature danneggiate.

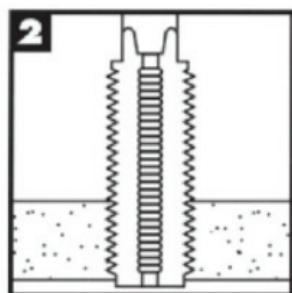
*The KN-KNH inserts with 2 or 4 locking keys\* that once installed lock the insert against the rotation due to torsion or vibration. The keys are placed in the proper seats by a punch or a hammer (see Fig. 4 Installation). Available in thin wall and heavy duty versions. Used to obtain high performance thread on light alloys, steel and cast iron or to repair worn thread.*

*\* 2 chiavette per bussole fino a M6 / 2 keys for inserts up to M6  
4 chiavette per bussole oltre l'M6 / 4 keys for inserts bigger than M6*

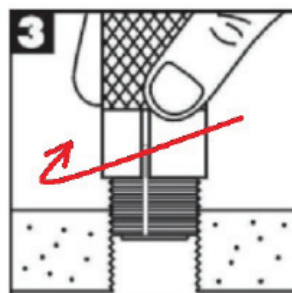
## INSTALLAZIONE / INSTALLATION \*\*



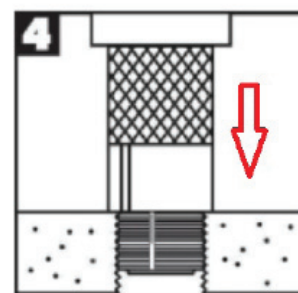
Foratura con svaso  
Drilling with chamfer



Maschiatura  
Tapping

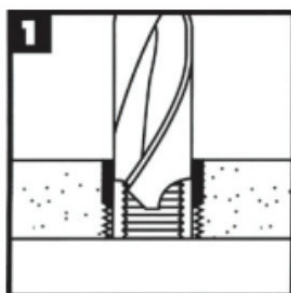


Avvitamento bussola  
Insert screwing

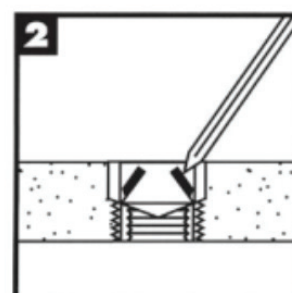


Posizionamento chiavette  
Keys hammering

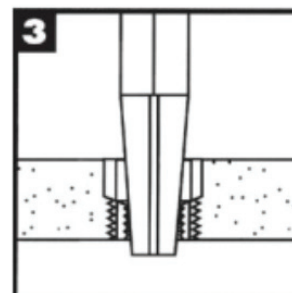
## RIMOZIONE / REMOVAL \*\*



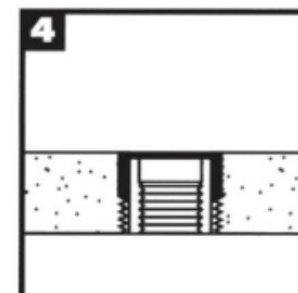
Foratura  
Drilling



Rottura chiavi  
Keys breaking off



Rimozione bussola  
Insert removal



Sostituzione bussola  
Insert replacement

\*\* Rispettare i valori indicati nella tabella di pagina 21 / Follow dimensions on page 21

**SERIE SPESSORE RIDOTTO**  
**THIN WALL SERIES**

KN

Bussola Insert		Installazione Installation							Rimozione Removal	
ACCIAIO STEEL	INOX STAINLESS STEEL	Filetto interno Internal thread 6H	Filetto esterno External Thread 6g	L (mm)	ø foro ø hole (mm)	ø svaso ø csk +0.25/-0.00 (mm)	Maschiatura Tapping		Foratura Drilling	
							Dim. Size 6H	Prof. Min. Min. Depth (mm)	ø foro ø hole (mm)	Prof. Depth (mm)
83ACKNM02	83IXKNM02	M2x0.4	M4x0.7	3.0	3.4	4.1	M4x0.7	4.0		2.0
83ACKNM2.5	83IXKNM2.5	M2.5x0.45	M4.5x0.75	3.8	3.9	4.6	M4.5x 0.75	5.0	3.0	2.0
83ACKNM03	83IXKNM03	M3x0.5	M5x0.8	4.25	4.4	5.1	M5x0.8	5.5	3.5	2.25
83ACKNM04	83IXKNM04	M4x0.7	M6x0.75	5.25	5.5	6.1	M6x0.75	6.5	4.6	2.5
83ACKNM05	83IXKNM05	M 5x0.8	M8x1.25	8.0	6.9	8.25	M8x1.25	9.5	5.50	4.00
83ACKNM06	83IXKNM06	M6x1	M10x1.25	10.0	8.8	10.25	M10x1.25	11.5	7.50	4.75
83ACKNM08	83IXKNM08	M8x1.25	M12x1.25	12.0	10.8	12.25	M12x1.25	13.5	9.50	4.75
83ACKNM08P100	83IXKNM08P100	M8x1								
83ACKNM10	83IXKNM10	M10x1.5	M14x1.5	14.0	12.8	14.25	M14x1.5	15.5	11.50	4.75
83ACKNM10P125	83IXKNM10P125	M10x1.25								
83ACKNM12	83IXKNM12	M12x1.75	M16x1.5	16.0	14.75	16.25	M16x1.5	17.5	13.50	4.75
83ACKNM12P125	83IXKNM12P125	M12x1.25								

**SERIE SPESSORE RINFORZATO**  
**HEAVY DUTY SERIES**

KNH

Bussola Insert		Installazione Installation							Rimozione Removal	
ACCIAIO STEEL	INOX STAINLESS STEEL	Filetto interno Internal thread 6H	Filetto esterno External Thread 6g	L (mm)	ø foro ø hole (mm)	ø svaso ø csk +0.25/-0.00 (mm)	Maschiatura Tapping		Foratura Drilling	
							Dim. Size 6H	Prof. Min. Min. Depth (mm)	ø foro ø hole (mm)	Prof. Depth (mm)
83ACKNHM04	83IXKNHM04	M4x0.7	M8x1.25	8.0	6.90	8.25	M8x1.25	9.5	5.50	4.00
83ACKNHM05	83IXKNHM05	M5x0.8	M10x1.25	10.0	8.80	10.25	M10x1.25	12.5	7.50	4.75
83ACKNHM06	83IXKNHM06	M6x1	M12x1.25	12.0	10.80	12.25	M12x1.25	14.5	9.50	4.75
83ACKNHM08	83IXKNHM08	M8x1.25	M14x1.5	14.0	12.80	14.25	M14x1.5	16.5	11.50	4.75
83ACKNHM08P100	83IXKNHM08P100	M8x1								
83ACKNHM10	83IXKNHM10	M10x1.5	M16x1.5	16.0	14.75	16.25	M16x1.5	18.5	13.50	4.75
83ACKNHM10P125	83IXKNHM10P125	M10x1.25								
83ACKNHM12	83IXKNHM12	M12x1.75	M18x1.5	18.0	16.75	18.25	M18x1.5	20.5	15.50	4.75
83ACKNHM12P125	83IXKNHM12P125	M12x1.25								
83ACKNHM14	83IXKNHM14	M14x2	M20x1.5	20.0	18.75	20.25	M20x1.5	22.5	17.50	4.75
83ACKNHM14P150	83IXKNHM14P150	M14x1.5								
83ACKNHM16	83IXKNHM16	M16x2	M22x1.5	22.0	20.50	22.25	M22x1.5	24.5	17.75	6.35
83ACKNHM16P150	83IXKNHM16P150	M16x1.5								
83ACKNHM18	83IXKNHM18	M18x1.5	M24x1.5	24.0	22.50	24.25	M24x1.5	26.5	19.75	6.35
83ACKNHM20	83IXKNHM20	M20x2.5	M30x2	30.0	28.00	30.25	M30x2	34.5	25.75	6.35
83ACKNHM20P150	83IXKNHM20P150	M20x1.5								
83ACKNHM22	83IXKNHM22	M22x1.5	M32x2	32.0	30.00	32.25	M32x2	36.5	27.75	6.35
83ACKNHM24	83IXKNHM24	M24x3	M33x2	33.0	31.00	33.25	M33x2	37.5	28.75	6.35
83ACKNHM24P200	83IXKNHM24P200	M24x2								

## MATERIALI / MATERIALS:

- Acciaio temprato zincato / *Hardened zinc plated steel*
- Inox AISI 303 (1.4305) / *Stainless steel AISI 303 (1.4305)*

## DISPONIBILI A RICHIESTA / AVAILABLE ON DEMAND:

- Filettatura UNC/UNF / *UNC/UNF thread*
- Utensili di posa / *Setting tools*



## Fasteners for sheet metal - Fissaggi per lamiera

### BLIND RIVETS - RIVETTI A STRAPPO



### THREADED INSERTS - INSERTI FILETTATI



### SELF CLINCHING FASTENERS - AUTOFISSANTI



### WELDING STUDS - PERNI A SALDARE



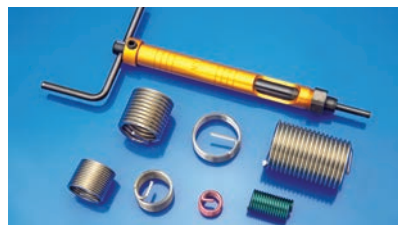
Fasteners for plastics  
Fissaggi per la plastica

Fasteners for solid parts  
Fissaggi per corpi pieni

### BRASS INSERTS - INSERTI IN OTTONE



### WIRE INSERTS - FILETTI RIPORTATI



## Fasteners for tubes - Fissaggi per tubi

### INSERTS FOR TUBES - INSERTI PER TUBI

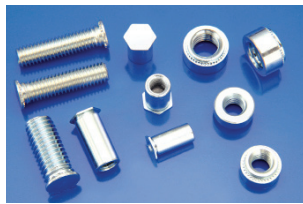




**RIVETTI A STRAPPO**  
*BLIND RIVETS*



**INSERTI FILETTATI**  
*THREADED INSERTS*



**AUTOFISSANTI**  
*SELF-CLINCHING  
FASTENERS*



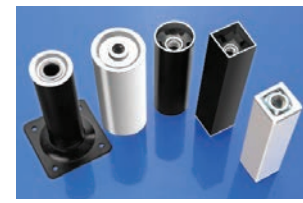
**PERNI A SALDARE**  
*WELDING STUDS*



**FISSAGGI PER MATERIE  
PLASTICHE**  
*FASTENERS FOR PLASTICS*



**FILETTI RIPORTATI**  
*WIRE INSERTS*



**INSERTI PER TUBI**  
*INSERTS FOR TUBES*

# FIXI®

**FASTENING SYSTEMS**

Via Bellardi, 40/A - 10146 Torino (Italy)  
Tel. 0039 011.7072398 / 7070877 - Fax 0039 011.7072521  
E-mail: [info@fixi.it](mailto:info@fixi.it) - [www.fixi.it](http://www.fixi.it)

## FIXI® VPL

**VALLE D'AOSTA - PIEMONTE  
LOMBARDIA - LIGURIA**

Via Valgioie, 94 - 10146 Torino Italy  
Tel. 0039 011.0882009 - Fax 0039 011.0882012  
E-mail: [info@fixivpl.it](mailto:info@fixivpl.it) - [www.fixi.it](http://www.fixi.it)

## FIXI® 3v

**TRENTINO - VENETO - FRIULI**

Via Keplero, 4G/H - Z.I. di Tognana - 35028 Piove di Sacco (PD) Italy  
Tel. 0039 049.8079285 - Fax 0039 049.8087725  
E-mail: [trevenezie@fixitrevenezie.it](mailto:trevenezie@fixitrevenezie.it) - [www.fixi.it](http://www.fixi.it)

## FIXI® ets

**EMILIA ROMAGNA - TOSCANA - SARDEGNA**

Via Secci, 4 - 40132 Bologna Italy  
Tel. 0039 051.0353243 - Fax 0039 051.0353244  
E-mail: [amministrazione@fixiets.it](mailto:amministrazione@fixiets.it) - [www.fixi.it](http://www.fixi.it)

## FIXI® u.a

**MARCHE - UMBRIA - ABRUZZO - MOLISE**

Via Roma, 10 - 63078 Pagliare del Tronto Fraz. Spinetoli (AP) Italy  
Tel. 0039 0736.814110 - Fax 0039 0736.984002  
E-mail: [info@fixiua.it](mailto:info@fixiua.it) - [www.fixi.it](http://www.fixi.it)

## FIXI® cs:

**CENTRO SUD ITALIA**

Via Alcide De Gasperi, 116 - 63078 Pagliare del Tronto Fraz. Spinetoli (AP) Italy  
Tel. 0039 0736.499445 - E-mail: [info@fixicentrosud.it](mailto:info@fixicentrosud.it) - [www.fixi.it](http://www.fixi.it)

