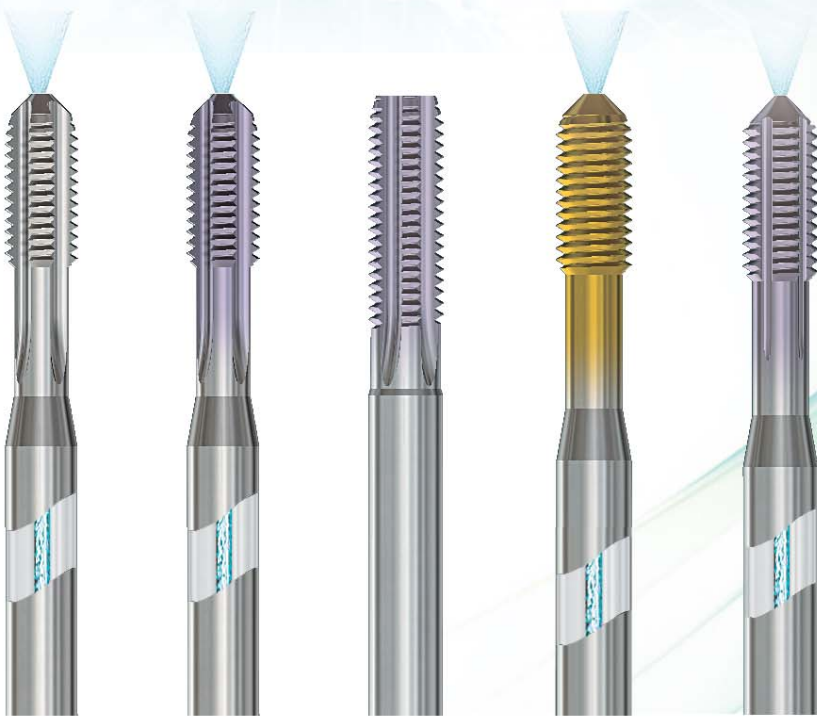


MDI-HR



... follow me!



METALLO DURO INTEGRALE - ALTA RESISTENZA
Solid carbide, high resistance - Carbure, haute résistance



Tolleranza del gambo

Shank tolerance - Tige tolérance

Tolleranza del gambo h6 per garantire la massima precisione ad alte velocità di taglio.

Shank tolerance h6 to ensure maximum precision at high cutting speeds.

Tige tolérance h6 pour assurer la plus haute précision à grande vitesse de coupe.

For

Lubrificazione interna con uscita assiale.

Through coolant, axial flow.

Lubrification interne à sortie axiale.



Materiale

Material - Matériau

Metallo duro integrale, micrograna ottimale per maschi filettatori.

Solid carbide, micrograin optimal for taps.

Carbure, grain micro optimale pour les tarauds.

Scanalature diritte

Straight flutes - Goujures droites

Progettate per lavorare la ghisa e materiali a truciolo corto; basso angolo di taglio e spoglie dorsali accentuate.

Designed for machining cast iron and short-chipping materials; low cutting angle combined with high reliefs.

Spécialement conçue pour la fonte et matériaux coupeau court; angle de coupe basse et dépouille accentué.

Imbocco

Chamfer - Entrée

Imbocco tipo C (2-3xP)

Chamfer type C (2-3xP)

Type d'entrée C (2-3xP)

HM20/HM21...FOR-CT

Tagli diritti per ghisa e materiali a truciolo corto, rivestimento superficiale TiCN.

Straight flutes for cast iron and short-chipping materials, TiCN coating.

Goujures droites pour la fonte et matériaux coupeau court, revêtement TiCN.

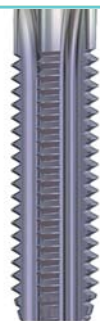


HM-XT20...CT

Tagli diritti per alta resistenza fino a 62 HRC.

Straight flutes for high strength materials up to 62 HRC.

Goujures droites pour haute résistance jusqu'à 62 HRC.



Filettature – Thread – Filetage

M	pag	4 - 5
MF	pag	6

Materiale – Material – Matériau

MDI Metallo duro – *Solid carbide* – *Carbure*

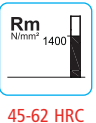
Rivestimento – Coating – Revêtement

TiN Resistenza all'usura – *Wear resistance* – *Résistance à l'usure*

TiCN Resistenza all'usura – *Wear resistance* – *Résistance à l'usure*

Campo applicativo – Application field – Champs d'applications

1.7 1.8	Acciaio legato alta resistenza, acciaio temprato - <i>Alloyed steel, high strength steel, hardened steel</i> - <i>Acier allié, haute résistance, Acier trempé</i>
3.1 3.2 3.3 3.4 3.5	Ghisa – <i>Cast iron</i> – <i>Fonte</i>
4.3 4.4	Leghe di alluminio $Si \geq 10\%$ ed $Mn \geq 10\%$ – <i>Aluminium alloys $Si \geq 10\%$ and $Mn \geq 10\%$</i> – <i>Alliages aluminium $Si \geq 10\%$ et $Mn \geq 10\%$</i>



Per fori ciechi e passanti – For blind and through holes – Pour trous débouchants et borgnes

HM20 HM21 Tagli diritti – *Straight flutes* – *Goujournes droites*

HM-XT20 Tagli diritti 45-62HRC – *Straight flutes 45-62HRC* – *Goujournes droites 45-62HRC*

HM2SC Maschi a rullare senza canalini, tolleranza 6HX – *Roll taps without oil groove, tolerance 6HX* – *Tarauds à refouler sans rainures, tolérance 6HX*

HM2CC Maschi a rullare con canalini, tolleranza 6HX – *Roll taps with oil groove, tolerance 6HX* – *Tarauds à refouler avec rainures, tolérance 6HX*

Legenda icone – Icon description – Légende icônes



Filettatura destra – *Right thread* – *Filetage à droite*



Tipi di imbocco – *Chamfer type* – *Nombre de filets d'entrée*

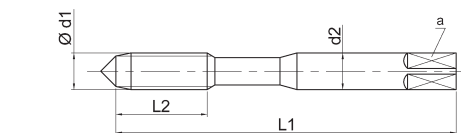
Maschi scanalature diritte in metallo duro - MD Straight flutes taps, hard metal - HM Tarauds avec goujures droites Carbure - MD			Maschi a rullare MDI Roll taps hard material HM Tarauds à refouler Carbure	
HM20HM21_FOR	HM20HM21_FORCT	HM-XT20_CT	HM2SC_FOR-T	HM2CC_FOR-CT
TOP	TOP	TOP	TOP	TOP
		≤62HRC	X-series	X-series
4	4	4	5	5
6				
C (2-3)	C (2-3)	D (4-5)	C (2-3)	C (2-3)
MDI/HM	MDI/HM	MDI/HM	MDI/HM	MDI/HM
Br	TiCN	TiCN	TiN	TiCN
GG	GG	HR	N	N
3,5xD	3,5xD	1,5xD	3xD	3xD
1.1			■ 30-50	■ 30-50
1.2			■ 30-50	■ 30-50
1.3			■ 30-45	■ 30-45
1.4			■ 30-40	■ 30-40
1.5			○ 20-30	○ 20-30
1.6				
1.7		○ 4-6		
1.8		■ 1-4		
2.1			■ 20-25	■ 20-25
2.2			■ 15-20	■ 15-20
2.3			■ 10-15	■ 10-15
2.4			○ 10-15	○ 10-15
3.1	■ 30-40	■ 40-60		
3.2	■ 25-30	■ 30-40		
3.3	○ 25-30	○ 30-40		
3.4	○ 30-40	○ 40-60		
3.5	■ 25-30	■ 30-40		
4.1			■ 40-50	■ 40-50
4.2			■ 50-60	■ 50-60
4.3	○ 40-50	○ 60-70	■ 40-50	■ 40-50
4.4	■ 30-40	■ 40-60		
4.5	■ 40-60	■ 60-80		
4.6	■ 40-60	■ 60-80		
5.1			○ 30-40	○ 30-40
5.2			○ 30-40	○ 30-40
5.3	○ 40-50	○ 60-70		
5.4	○ 8-10	○ 12-15	■ 5-10	
6.1				
6.2				
6.3				
7.1			■ 30-35	■ 30-35
7.2			○ 10-15	○ 10-15
7.3				
8.1				
8.2	○ 20-25	○ 30-35		
8.3	○ 10-15	○ 15-20		
9.1		■ 5-10		
9.2				
9.3		■ 4-8		
10.1	■ 20-25	■ 30-35		

MASCHI A MACCHINA

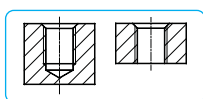
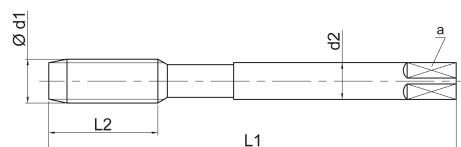
MACHINE TAPS - TARAUDS MACHINE

MDI-HM METALLO DURO INTEGRALE - ALTA RESISTENZA
Solid carbide, high resistance - Carbure, haute résistance

DIN 371



UFS norm



TOP



TOP



TOP



45-62 HRC

Profond. di filettatura - Thread depth - Profond. de filetage

Materiale - Material - Matériau

Tolleranza - Tolerance - Tolérance

Trattamento superficiale - Surface treatment - Revêtement

Ghisa / Cast Iron / Fonte
Al Si>10%
Ottone / Brass / Laiton
Bronzo / Bronze / Bronze
truciolo corto / short chip /
coupeaux courts

Numero gruppi materiali

Material's groups number

Nombre de groupes du matériau

3.1 3.2 3.3 3.4 3.5

4.3 4.4 4.5 4.6

5.3 5.4 8.2 8.3

10.1

3.1 3.2 3.3 3.4 3.5

4.3 4.4 4.5 4.6

5.3 5.4 8.2 8.3

10.1

1.7 1.8

5.4

9.1 9.3

DIN 371	$\varnothing d_1$ M	P mm	L ₁	L ₂	d ₂ h6	a h12	Z	
6	1	80	16	6	4,9	-	5	
8	1,25	90	18	8	6,2	-	6,8	
10	1,5	100	20	10	8	-	8,5	
6	1	80	18	6	4,9	-	5	
8	1,25	90	25	8	6,2	-	6,8	
10	1,5	100	30	10	8	-	8,5	

UFS norm	$\varnothing d_1$ M	P mm	L ₁	L ₂	d ₂ h6	a h12	Z	
12	1,75	110	25	9	7	-	10,3	
14	2	110	22	11	9	-	12	
16	2	110	22	12	9	-	14	
18	2,5	125	24	14	11	-	15,5	
20	2,5	140	25	16	12	-	17,5	
12	1,75	110	30	12	9	-	10,3	
16	2	110	40	16	12	-	14,25	

CODICE - CODE	
HM20M...FOR	HM20M...FOR-CT
*	*
*	*
*	*
HM-XT20M...CT	
-	*
-	*
-	*

CODICE - CODE	
HM21M...FOR	HM21M...FOR-CT
*	*
*	*
*	*
*	*
*	*
HM-XT20M...CT	
-	*
-	*

Confezione / Box / Colis:
M3 - M12: 5 pezzi / pcs
>M12: singoli / single pcs

€ Pag. listino - Price list - Liste des prix

• Standard

10

○ Disponibilità da richiedere, prezzo a listino
On enquiry, standard price-list / Stock à vérifier

10

10

* Solo a richiesta
Only on request / Sur demande

MDI-HM

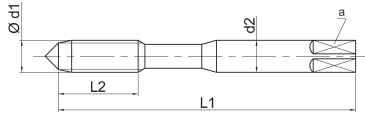
METALLO DURO INTEGRALE - ALTA RESISTENZA

Solid carbide, high resistance - Carbure, haute résistance

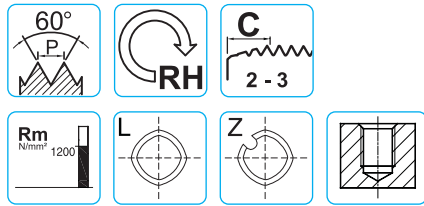
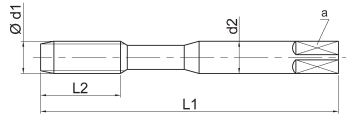
MASCHI A MACCHINA

MACHINE TAPS - TARAUDS MACHINE

DIN 371



DIN 371



3xD

3xD

MDI/HM

MDI/HM

6HX

6HX

TiN

TiCN

1.1 1.2 1.3 1.4 1.5	1.1 1.2 1.3 1.4 1.5
2.1 2.2 2.3 2.4	2.1 2.2 2.3 2.4
4.1 4.2 4.3	4.1 4.2 4.3
5.1 5.2 7.1 7.2	5.1 5.2 7.1 7.2

- Profond. di filettatura - Thread depth - Profond. de filetage
- Materiale - Material - Matériau
- Tolleranza - Tolerance - Tolérance
- Trattamento superficiale - Surface treatment - Revêtement
- Numero gruppi materiali
Material's groups number
Nombre de groupes du matériau

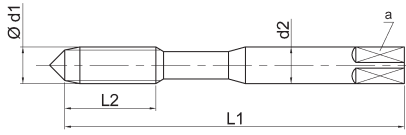
DIN 371	Ød1 M	P mm	L ₁	L ₂	d ₂ h6	a h12	Z	
5	0,8	70	8,5	6	4,9	-	4,65	
6	1	80	11	6	4,9	-	5,55	
8	1,25	90	14	8	6,2	-	7,40	
10	1,5	100	10	10	8	-	9,30	

CODICE - CODE	
HM2SCM...FOR-T	HM2CCM...FOR-CT
*	*
*	*
*	*
*	*

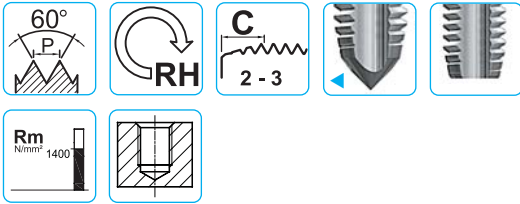
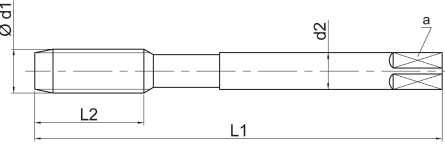
MASCHI A MACCHINA

MACHINE TAPS - TARAUDS MACHINE

DIN 371



DIN 374



TOP



Profond. di filettatura - Thread depth - Profond. de filetage

3,5xD

Materiale - Material - Matériau

MDI-HM

Tolleranza - Tolerance - Tolérance

6HX

Trattamento superficiale - Surface treatment - Revêtement

BR

Ghisa / Cast Iron / Fonte
 Al Si>10%,
 Ottone / Brass / Laiton
 Bronzo / Bronze / Bronze
 truciolo corto / short chip /
 coupeaux courts

Numero gruppi materiali
 Material's groups number
 Nombre de groupes du matériau

3.1	3.2	3.3	3.4	3.5
4.3	4.4	4.5	4.6	
5.3	5.4	8.2	8.3	
10.1				

DIN	Ød1	P	L ₁	L ₂	d ₂	a	Z	
371	MF	mm			h9	h12		
8	1	90	18	8	6,2	-	7	
10	1	100	20	10	8	-	9	
10	1,25	100	20	10	8	-	8,75	

CODICE - CODE

*HM20MF...FOR

*

*

*

DIN	Ød1	P	L ₁	L ₂	d ₂	a	Z	
374	MF	mm			h9	h12		
8	1	90	18	6	4,9	4	7	
10	1	90	15	7	5,5	4	9	
10	1,25	100	20	7	5,5	4	8,75	
12	1,25	100	22	9	7	4	10,75	
12	1,5	100	22	9	7	4	10,5	
14	1,5	100	22	11	9	4	12,5	
16	1,5	100	22	12	9	4	14,5	

CODICE - CODE

*HM21MF...FOR

-

-

-

*

*

*

*

*A richiesta / On request /
 Sur demande:

Rivestimento / Coating /
 Revêtement:

TICN

Confezione / Box / Colis:
 M3 - M12: 5 pezzi / pcs
 >M12: singoli / single pcs

€ Pag. listino - Price list - Liste des prix

48

• Standard

○ Disponibilità da richiedere, prezzo a listino
 On enquiry, standard price-list / Stock à vérifier

* Solo a richiesta
 Only on request / Sur demande

1		Acciaio - Steel - Acier		
Acciaio legato Alloyed steel Acier allié	1.7	Acciaio legato - alta resistenza Rm 1400 ÷ 1600 N/mm², 45 ÷ 49 HRC <i>Alloyed steel, high strength steel - Acier allié - haute résistance</i>		
	1.8	Acciaio legato - temprato 49 ÷ 62 HRC <i>Hardened steel - Acier trempé</i>		
		W-Nr.	DIN - Germany	UNI - Italy
		1.7035	41Cr4	41Cr4
		1.8159	50CrV4, 51CrV4	51CrV4
		1.7218	25CrMo4	25CrMo4
		1.7220	34CrMo4	35CrMo4
		1.7225	42CrMo4	42CrMo4
Da bonifica <i>Heat-treatable steel</i> <i>De revenu</i>		1.7228	50CrMo4	-
		1.7242	16CrMo4	18CrMo4
		1.6580	30CrNiMo8	30NiCrMo8
		1.6582	34CrNiMo6	35NiCrMo6 (KW)
		1.6511	36CrNiMo4	38NiCrMo4 (KB)
		1.6773	36NiCrMo16	34NiCrMo16
		1.6565	40NiCrMo6	-
Da nitrurazione <i>Nitriding steel</i> <i>De nitruration</i>		1.8515	31CrMo12	31CrMo12
		1.8519	31CrMoV9	-
		1.8507	34CrAlMo7	34CrAlMo7
		1.8509	41CrAlMo7	41CrAlMo7
Da cuscinetti <i>Ball bearing steel</i> <i>Roulements</i>		1.3505	100Cr6	100Cr6
		1.3537	100CrMo7	100CrMo7
		1.5025	51Si7	48Si7
		1.5026	56Si7	55Si7
Per molle <i>Spring steel</i> <i>Ressorts</i>		1.5027	60Si7	-
		1.7108	60SiCr7	60SiCr8
		1.8159	50CrV4	50CrV4
		1.7176	55Cr3	55Cr3
		1.7701	51CrMoV4	-
		1.0446	GS-45	-
Fusioni d'acciaio (ghisa acciaiata) <i>Steel castings</i> <i>Acier coulé</i>		1.0552	GS-52	-
		1.5919	GS-15CrNi6	-
		1.7218	GS-25CrMo4	-
		1.7220	GS-34CrMo4	-
		1.7379	GS-18CrMo9-10	-
		1.7005	45Cr2	-
Per tempra superficiale <i>Surface hardening</i> <i>De durcissement de surface</i>		1.7006	46Cr2	46Cr2
		1.7043	38Cr4	-
		1.7034	37Cr4	36CrMn4
		1.7223	41CrMo4	41CrMo4

Continua Acciaio legato / Continue Alloyed steel / Acier allié à suivre ►

	W-Nr.	DIN - Germany	UNI - Italy
Per lavorazioni a caldo <i>Hot work tool steel</i> <i>Travail à chaud</i>	1.2767	45NiCrMo16	42NiCrMo 15 7
	1.2713	55NiCrMoV6	-
	1.2714	55NiCrMoV7	55NiCrMoV7KU
	1.2311	40CrMnMo7	35CrMo8KU
	1.2365	X32CrMoV3-3	30CrMoV12-27KU
	1.2343	X38CrMoV5-1	X37CrMoV5-1KU
	1.2344	X40CrMoV5-1	X40CrMoV5-1-1KU
	1.2567	X30WCrV5-3	X30WCrV5-3KU
	1.2581	X30WCrV9-3	X30WCrV9-3KU
Per lavorazioni a freddo <i>Cold work tool steel</i> <i>Travail à froid</i>	1.2080	X210Cr12	X205Cr12KU
	1.2083	X42Cr13	-
	1.2363	X100CrMoV5-1	X100CrMoV5-1KU
	1.2379	X155CrVMo12-1	X155CrVMo12-1KU
	1.2510	100MnCrW4	95MnWCr5KU
	1.2550	60WCrV7	55WCrV8KU
	1.2842	90MnCrV8	90MnVCr8KU
Acciaio rapido HSS, HSS-E <i>High speed steel</i> <i>Acier rapide</i>	1.3202	S 12-1-4-5	(T15)
	1.3207	S 10-4-3-10	HS 10-4-3-10 (T42)
	1.3243	S 6-5-2-5	HS 6-5-2-5 (M35)
	1.3247	S 2-10-1-8	HS 2-9-1-8 (M42)
	1.3343	S 6-5-2	HS 6-5-2 (M2)
	1.3344	S 6-5-3	(M3/2)
	1.3348	S 2-9-2	HS 2-9-2 (M7)
Acciaio rapido sinterizzato HSS-PM <i>Sintered high speed steel</i> <i>Acier fritté</i>	-	HS 6-5-3-8	(ASP2030, ASP30)
	-	HS 10-2-5-8	(ASP2052, ASP52)
	-	HS 6-7-6-10	(ASP2060, ASP60)
1.7 Acciaio speciale Rm<1600 N/mm ² <i>Special steel</i> <i>Acier spécial</i>			HARDOX 400
1.8 Acciaio speciale 49 – 62 HRC <i>Special steel</i> <i>Acier spécial</i>			HARDOX 450
			HARDOX 500
			HARDOX 600
3	Ghisa - Cast Iron - Fonte		
3.1	Ghisa grigia lamellare Rm < 600 N/mm², < 180 HB		
	<i>Lamellar grey cast iron - Fonte grise lamellaire</i>		
	W-Nr.	DIN - Germany	UNI - Italy
	0.6010	GG-10	G 10
0.6015	GG-15	G 15	
0.6020	GG-20	G 20	
3.2	Ghisa grigia lamellare Rm 600 ÷ 1000 N/mm², 180 ÷ 300 HB		
	<i>Lamellar grey cast iron - Fonte grise lamellaire</i>		
	W-Nr.	DIN - Germany	UNI - Italy
	0.6025	GG-25	G 25
	0.6030	GG-30	G 30
0.6035	GG-35	G 35	
0.6040	GG-40	G 40	

Continua Ghisa / Continue Cast Iron / Fonte à suivre ►

3.3	Ghisa sferoidale Rm < 1000 N/mm², < 300 HB		
	<i>Nodular cast iron - Fonte ductile</i>		
	W-Nr.	DIN - Germany	UNI - Italy
	0.7033	GGG-35.3	-
	0.7040	GGG-40	GS400-12
	0.7043	GGG-40.3	GSO 42/17
	0.7050	GGG-50	GS500-7
	0.7060	GGG-60	GS600-3
	0.7070	GGG-70	GS700-2
	0.7080	GGG-80	GS800-2
	0.7670	GGG-Ni22	-
	0.7683	GGG-Ni35	-
	0.7660	GGG-NiCr20-2	-
0.7677	GGG-NiCr30-1	-	
0.7685	GGG-NiCr35-3	-	
3.4	Ghisa malleabile Rm < 700 N/mm², < 210 HB		
	<i>Malleable cast iron - Fonte malléable</i>		
	W-Nr.	DIN - Germany	UNI - Italy
	0.8035	GTW-35-04	-
	0.8045	GTW-45-07	-
	0.8145	GTS-45-06	-
0.8165	GTS-65-02	-	
0.8170	GTS-70-02	-	
3.5	Ghisa vermicolare a grafite compatta Rm 700 ÷ 1000 N/mm², 200 ÷ 300 HB		
	<i>Compacted cast iron with vermicular graphite - Fonte vermiculaire à graphite compacté</i>		
	W-Nr.	DIN - Germany	Denom. comm./Trade name/Nom comm.
			(CGI)
		(GGV)	
		(GJV)	
4	Alluminio, Magnesio - Aluminium, Magnesium - Alliage, Magnésium		
4.3	Leghe di Al, Si < 10% - truciolo medio Rm < 500 N/mm², < 150 HB		
	<i>Al alloys, medium chipping - Alliage Al - coupeaux moyens</i>		
	W-Nr.	DIN - Germany	UNI - Italy
	3.2134	G-ALSi5Cu1Mg	3600
	3.2161	G-ALSi8Cu3	5075
	3.2162.05	GD-ALSi8Cu3	-
3.2371	G-ALSi7Mg	7257	
3.2373	G-ALSi9Mg	3051	
4.4	Leghe Al, Si > 10% - truciolo corto Rm < 600 N/mm², < 180HB		
	<i>Al alloys, short chipping - Alliage Al - coupeaux courts</i>		
	W-Nr.	DIN - Germany	UNI - Italy
	3.2381	G-ALSi10Mg	3049
	3.2383	G-ALSi10Mg(Cu)	-
3.2581	G-ALSi12	5079	
3.2583	G-ALSi12(Cu)	3048	

U

APPLICAZIONE UNIVERSALI R - 1200 N/mm²
 Universal Applicators - Applicazioni universali - Applications universelles

TOP
UFS

HR

ALTA RESISTENZA
 High Resistance - Haute Résistance

TOP
UFS

INOX

ACCIAIO INOSSIDABILE
 Stainless steel - Acier inoxydable

TOP
UFS

Al-Cu-Fe

ALLUMINIO, RAME, ACCIAIO R - 700 N/mm²
 Aluminium, Cuivre, Acier R - 700 N/mm² - Aluminium, Kupfer, Stahl R - 700 N/mm²

TOP
UFS

GHISA
 Cast Iron - Fonte

TOP
UFS

TI

TITANIO
 Titanium - Titane

TOP
UFS

Ni

NICKEL
 Nickel - Nickel

TOP
UFS

SYNCHIRO RIGID

MASCHERATURA RIGIDA SINCRONIZZATA
 Rigid Tapping Synchronised - Tarausage rigide synchronisée

TOP
UFS

X - SERIES

MASCHI A RULLARE
 Roll Taps - Tarausati a rullare

TOP
UFS

La linea di utensili, definita **"TOP"** è stata creata come risposta alle esigenze evolutive del mercato e rappresenta la più alta espressione qualitativa dei prodotti UFS. Ottima per applicazioni in tutte le lavorazioni di materiali difficili e per alte produzioni automatizzate. Le caratteristiche e gli impieghi sono sviluppati nelle brochure specifiche.

The **"TOP"** line was created as a specific answer to the market evolution needs, and represents the highest quality expression of the UFS products. Excellent for application on difficult materials and on high automatized productions. See all the technical information and practical use on the specific brochures.

La ligne d'outils **"TOP"** a été créée pour répondre aux exigences d'évolution du marché et représente la meilleure qualité des produits UFS. Une ligne d'excellence pour les applications sur matériaux difficiles et production automatisée. Voir caractéristiques techniques et utilisations sur les brochures spécifiques.

