X - SERIES

MASCHI A RULLARE

Roll taps - Tarauds à refouler

MADE IN ITALY

X2-X3 series

U APPLICAZIONI UNIVERSALI R ≤ 1200 N/mm²

Universal Applications R ≤ 1200 N/mm² - Applications universelles R ≤ 1200 N/mm²

SC
Senza Canalini
Without oil groove
Sans rainures

CC
Con Canalini
With oil groove
Avec rainures

Materiale

Material - Matériau

PM3 Acciaio super rapido sinterizzato ad alto contenuto di vanadio e cobalto.

PM3 Powdered metallurgy high speed steel with high contents of vanadium and cobalt.

Acier super rapide fritté PM3 à haute teneur en vanadium et cobalt.

Rivestimento

Coating - Revêtement

TiN-G Abbinato a particolari processi di finitura superficiali che riducono notevolmente la rugosità superficiale e l'attrito tra maschio e materiale da lavorare.

TiN-G Combined with particular finishing surface processes, which reduce the surface roughness and the friction between the taps and the working material.

TiN-G Combiné avec processus de finition particulières, qui réduisent la rugosité de la surface et la friction entre les taraud et la piece.

FOR

Lubrificazione interna con uscita assiale.

Through coolant, axial flow.

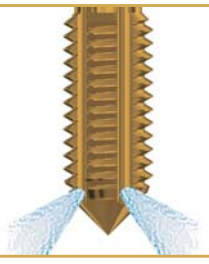
Lubrification interne à sortie axiale.

FORY

Lubrificazione interna con uscita radiale.

Through coolant, radial flow.

Lubrification interne à sortie radiale.



Filettature – *Thread – Filetage*

M	pag	4 - 7
MF	pag	8 - 10
GAS	pag	11

Materiale – *Material – Matériau*

PM3 Acciaio sinterizzato ad alta % di Co & V – *Powdered metallurgy with high % Co and V – Acier fritté avec haute % Co et V*

Rivestimento – *Coating – Revêtement*

CrN Resistenza all'usura, all'ossidazione e migliora lo scorrimento del truciolo – *Oxidation and wear resistance, better chip evacuation – Résistance à l'usure, l'oxydation et facilite le glissement des coupeaux*

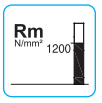
TiN-G Resistenza all'usura e buone proprietà di scorrimento – *Wear resistance and good sliding properties Résistance à l'usure et à bonnes propriétés de glissement*

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

TXC Resistenza all'usura, all'ossidazione e migliora lo scorrimento del truciolo – *Oxidation and wear resistance, better chip evacuation – Résistance à l'usure, l'oxydation et facilite le glissement des coupeaux*

Campo applicativo – *Application field – Champs d'applications*

1.1 1.2 1.3 1.4 1.5	Acciaio – *Steel – Acier*
2.1 2.2 2.3	Acciaio inossidabile – *Stainless Steel – Acier inoxydable*
4.1 4.2 4.3	Leghe alluminio Si $\leq$10% – *Aluminium alloys Si $\leq$ 10% – Alliages aluminium Si $\leq$ 10%*
5.1 5.2	Leghe di rame a truciolo lungo - *Cooper alloys long chipping - Alliages de cuivre coupeaux longs*

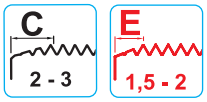


Per fori ciechi e passanti – *For blind and through holes – Pour trous débouchants et borgnes*

X2SC Maschi a rullare senza canalini, tolleranza 6HX – *Roll taps without oil groove, tolerance 6HX – Tarauds à refouler sans rainures, 6HX*
X3SC Maschi a rullare senza canalini, tolleranza 6GX – *Roll taps without oil groove, tolerance 6GX – Tarauds à refouler sans rainures, 6GX*
X2CC Maschi a rullare con canalini, tolleranza 6HX – *Roll taps with oil groove, tolerance 6HX – Tarauds à refouler avec rainures, 6HX*
X3CC Maschi a rullare con canalini, tolleranza 6GX – *Roll taps with oil groove, tolerance 6GX – Tarauds à refouler avec rainures, 6GX*

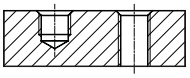
Legenda icone – *Icon description – Légende icônes*

Filettatura destra – *Right thread – Filetage à droite*

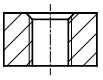


Tipi di imbocco – *Chamfer type – Nombre de filets d'entrée*

TABELLA D'IMPIEGO
APPLICATION TABLE
TABLE D'OPÉRATION



Applicazione per foro cieco e passante
Blind and through hole application
Application pour trou borgne et débouchant



Applicazione per foro passante
Through hole application
Application pour trou débouchant

Applicazione per foro cieco
Blind hole application
Application pour trou borgne

TOP

LH	Filettatura sinistra *Left hand thread - Filetage à gauche*
Ms58	Applicazione specifica per ottone Ms58 *Specific application for brass Ms58 - Spécifique pour laiton Ms58*
AZ	Alternatura del filetto *Interrupted threads - Taraud avec filets alternés*
SR	Synchro Rigid, maschiatura rigida sincronizzata *Rigid tapping Synchro - Synchro Rigide, taraudage rigide synchronisée*
XL	Maschi con gambo lungo *Taps with long shank - Tarauds série longue*
BT	Back Tapered, rastremazione posteriore a botte del filetto *Back tapered thread - Détalonnage arrière*
IT	Inox Tapered, rastremazione posteriore orizzontale del filetto *Horizontal back tapered for Inox application* *INOX Tapered, détalonné conique horizontale pour application Inox*
con1:16	Maschi con filettatura conica *Taps with tapered thread - Tarauds à filetage conique*
Al	Applicazione specifica per alluminio e leghe d'alluminio *Specific application for aluminium and aluminium alloys* *Application spécifique pour l'aluminium et alliages d'aluminium*
Cu	Applicazione specifica per rame e leghe rame *Specific application for cooper and cooper alloys - Application spécifique pour le cuivre et ses alliages*
Ti	Applicazione specifica per titanio e leghe di titanio *Specific application for titanium and titanium alloys - Application spécifique pour titane et alliages de titane*
Ni	Applicazione specifica per nichel e leghe di nichel *Specific application for nickel and nikel alloys - Application spécifique pour le nickel et ses alliages*

Indicazione numero di pagina
Page number
Numéro de page

■ Utilizzo raccomandato - velocità di taglio m/min
■ *Recommended Use - cutting speed m/min*
■ *Utilisation-Recommandée - vitesse de coupe m/min*

❍ Utilizzo accettabile - velocità di taglio m/min
❍ *Acceptable Use - cutting speed m/min*
❍ *Utilisation acceptable - vitesse de coupe m/min*

Descrizione ***Description - Description***		
Tipi di foro *Hole Types - Type de trous*		
CODICE - *CODE - CODE*		
Linea - *Product line - Ligne*		
Elica / NOTE *Flute Tipe / Notes - Hélice / Notes*		
M MJ	ISO2/6H	
	ISO1/4H	
	ISO3/6G	
	7G	6H+0,1
MF MJF	ISO2/6H	
	ISO1/4H	
	ISO3/6G	
	7G	6H+0,1
UNC	2B	3BX
UNF	2B	3BX
UNEF	2B	
UNS	2B	
8-12-16 UN	2B	
20-28-32 UN	2B	
G, (Rp)		
NPSM		
NPSF		
Rc		
NPT		
NPTF		
BSW		
PG, Tr, Rd		
EG-M		
Imbocco / *Chamfer / Entrée*		
Materiale / *Steel tap / Matériel*		
Rivestimenti / *Coating / Revêtements*		
Classe appl. / *Appl. Class. / Classe d'appl.*		
Prof. filett. / *Thread depth / Profondeur fil*		

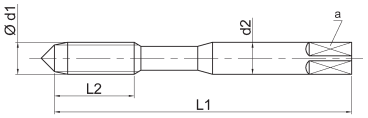
				HB < 120	**Rm N/mm²** < 400
1. Acciaio *Steel* *Acier*	1.1 Acciaio dolce magnetico	Magnetic soft steel	Acier doux magnétique	< 200	< 700
	1.2 Acciaio da costruzione, cementazione, automatico	Structural, case carburizing and free cutting steel	Acier de construction, trempé et automatique	< 200	< 700
	1.3 Acciaio al carbonio	Plain carbon steel	Acier au carbone	< 250	< 850
	1.4 Acciaio legato - Bonificato, fusioni d'acciaio	Alloyed steel - Tempered steel, steel castings	Acier allié, trempé et revenu, moulages d'acier	< 250	< 850
	1.5 Acciaio legato - Bonificato	Alloyed steel - Tempered steel	Acier allié, trempé et revenu	250÷350	850÷1200
	1.6 Acciaio legato - Alta resistenza	Alloyed steel - High strength steel	Acier allié, haute résistance	38÷45 HRC	1200÷1400
	1.7 Acciaio legato - Alta resistenza	Alloyed steel - High strength steel	Acier allié, haute résistance	45÷49 HRC	1400÷1600
	1.8 Acciaio legato - Temprato	Hardened steel	Acier trempé	49÷62 HRC	
2. Acciaio INOX *Stainless Steel* *Acier inoxydable*	2.1 Acciaio inox automatico	Free machining stainless steel	Acier inoxydable, automatique	< 250	< 850
	2.2 Austenitico	Austenitic	Austénitique	< 250	< 850
	2.3 Ferritico, Ferritico + Austenitico, Martensitico	Ferritic, Ferritic + Austenitic, Martensitic	Ferritique, austénitique + ferritiques, martensitiques	< 320	< 1100
	2.4 Leghe Cr-Ni resistenti alle alte temperature	Cr-Ni alloys high temperatures resistant	Alliage Cr-Ni résistant à des températures élevées	330÷410	1100÷1400
3. Ghisa *Cast iron* *Fonte*	3.1 Ghisa grigia lamellare	Lamellar grey cast iron	Fonte grise lamellaire	< 180	< 600
	3.2 Ghisa grigia lamellare	Lamellar grey cast iron	Fonte grise lamellaire	180÷300	600÷1000
	3.3 Ghisa sferoidale	Nodular cast iron	Fonte ductile	< 300	< 1000
	3.4 Ghisa malleabile	Malleable cast iron	Fonte malléable	< 210	< 700
	3.5 Ghisa vermicolare a grafite compatta	Compacted cast iron with vermicular graphite	Fonte vermiculaire à graphite compacté	200÷300	700÷1000
4. Alluminio, Magnesio *Al, Mg*	4.1 Alluminio / Magnesio non legato	Aluminium / Magnesium unalloyed	Aluminium / Magnésium non allié	< 100	< 350
	4.2 Leghe di Al, Si < 0,5% - Truciolo lungo	Al alloys, Si < 0,5% - Long chipping	Alliage Al, Si <0.5% copeaux longs	< 150	< 500
	4.3 Leghe di Al, Si < 10% - Truciolo medio	Al alloys, Si < 10% - Medium chipping	Alliage Al, Si <10% copeaux moyens	< 150	< 500
	4.4 Leghe Al, Si > 10% - Truciolo corto	Al alloys, Si > 10% - Short chipping	Alliage Al, Si >10% copeaux courts	< 180	< 600
	4.5 Leghe standard di magnesio	Magnesium standard alloys	Alliages de magnésium standards		120÷300
	4.6 Leghe di magnesio ad alta resistenza	High strength magnesium alloys	Alliages de magnésium de haute résistance	70÷120	240÷400
5. Rame *Cooper* *Cuivre*	5.1 Rame puro, Rame elettrolitico - Truciolo lungo	Cooper unalloyed - Long chipping	Cuivre pur, cuivre électrolytique, copeaux longs	< 100	< 350
	5.2 Leghe di rame, α-ottone - Truciolo lungo	Cooper alloys, soft brass - Long chipping	Alliages de cuivre, α–laiton copeaux longs	< 200	< 700
	5.3 Leghe di rame, β-ottone, Bronzo - Truciolo corto	Cooper alloys, hard brass, bronze - Short chipping	Alliages de cuivre, β–laiton, bronze copeaux courts	< 200	< 700
	5.4 Bronzo ad alta resistenza	High strength bronze	Bronze haute résistance	< 440	< 1500
6. Titanio *Titanium* *Titane*	6.1 Titanio non legato	Titanium unalloyed	Titane non allié	< 200	< 700
	6.2 Leghe di titanio	Titanium alloys	Alliages de titane	< 270	< 900
	6.3 Leghe di titanio	Titanium alloys	Alliages de titane	< 410	< 1400
7. Nichel *Nickel*	7.1 Nichel non legato	Nickel unalloyed	Nickel non allié	< 150	< 500
	7.2 Leghe di Nichel	Nickel alloys	Alliages de nickel	< 270	< 900
	7.3 Leghe di Nichel	Nickel alloys	Alliages de nickel	< 470	< 1600
8. Materie plastiche *Synthetic Material* *Matériaux Plastiques*	8.1 Materiali termoplastici - Truciolo extralungo	Thermoplastics - Extra long chipping	Matériaux thermoplastique coupeaux extra-longues		< 80
	8.2 Materiali termoindurenti - Truciolo corto	Thermosetting plastics - Short chipping	Matériaux thermodurcissables coupeaux courts		< 110
	8.3 Materie plastiche con fibre di rinforzo	Reinforced plastic materials	Plastiques avec fibres de renfort	240÷440	800÷1500
9. Materiali speciali *Special materials* *Matériaux spéciaux*	9.1 Materiali metallo – Ceramici (Cermets)	TIC - Hard materials	Matériaux métalliques, céramiques (Cermet)	< 51 HRC	< 1700
	9.2 Leghe a base cobalto	Alloys on cobalt base	Alliages à base de cobalt	< 350	< 1200
	9.3 Leghe di tungsteno	Tungsten alloys	Alliages de tungstène	< 52 HRC	< 1800
10. Grafite / *Graphite*	10.1 Grafite	Graphite	Graphite		< 100

	Maschi rullare senza canalini PM3 *Roll taps without oil groove PM3* *Tarauds à refouler sans rainures PM3*			Maschi a rullare con canalini PM3 *Roll taps with oil groove PM3* *Tarauds à refouler avec rainures PM3*			Maschi a rullare con canalini e foro di lub. *Roll taps with oil groove - int. coolant supply* *Tarauds à refouler avec rainures - lubrification interne*			Maschi a rullare imbocco E *Roll taps chamfer E* *Tarauds à refouler entrée E*		
	X2SC...NC	X2SC...TG	X2SC...CT	X2CC...NC	X2CC...TG	X2CC...CT	X2CC...TXC	X2CC...FOR-TG	X2CC...FORY-TG	X2SCE...TG	X2CCE...TG	X2CCE...FOR-TG
	TOP	TOP	TOP	TOP	TOP	TOP	TOP	TOP	TOP	TOP	TOP	TOP
												
	Al, Cu, Fe			Al, Cu, Fe								
	X-series	X-series	X-series	X-series	X-series	X-series	X-series	X-series	X-series	X-series	X-series	X-series
	4	4	4	5	5	5	6	6	6	7	7	7
		4			5							
		8			8		9	9	9	10	10	10
		8			8							
					11			11				
	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	C (2-3)	E (1,5-2)	E (1,5-2)	E (1,5-2)
	PM3	PM3	PM3	PM3	PM3	PM3	PM3	PM3	PM3	PM3	PM3	PM3
	CrN	TiN-G	TiCN	CrN	TiN-G	TiCN	TXC	TiN-G	TiN-G	TiN-G	TiN-G	TiN-G
	N	N	N	N	N	N	N	N	N	N	N	N
	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD	3xD
1.1	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40
1.2	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40	■ 30-40
1.3		■ 30-35	■ 30-35		■ 30-35	■ 30-35		■ 30-35	■ 30-35	■ 30-35	■ 30-35	■ 30-35
1.4		■ 25-30	■ 25-30		■ 25-30	■ 25-30		■ 25-30	■ 25-30	■ 25-30	■ 25-30	■ 25-30
1.5		❍ 10-15	❍ 10-15		❍ 10-15	❍ 10-15		❍ 10-15	❍ 10-15	❍ 10-15	❍ 10-15	❍ 10-15
1.6												
1.7												
1.8												
2.1		■ 10-15	■ 10-15		■ 10-15	■ 10-15		■ 10-15	■ 10-15	■ 10-15	■ 10-15	■ 10-15
2.2		■ 10-12	■ 10-12		■ 10-12	■ 10-12		■ 10-12	■ 10-12	■ 10-12	■ 10-12	■ 10-12
2.3		■ 6-10	■ 6-10		■ 6-10	■ 6-10		■ 6-10	■ 6-10	■ 6-10	■ 6-10	■ 6-10
2.4		❍ 6-8	❍ 6-8		❍ 6-8	❍ 6-8		❍ 6-8	❍ 6-8	❍ 6-8	❍ 6-8	❍ 6-8
3.1												
3.2												
3.3												
3.4												
3.5												
4.1	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40
4.2	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45	■ 40-45
4.3	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40	■ 35-40
4.4												
4.5												
4.6												
5.1	■ 15-20	❍ 15-20	❍ 15-20	■ 15-20	❍ 15-20	❍ 15-20	■ 15-20	❍ 15-20	❍ 15-20	❍ 15-20	❍ 15-20	❍ 15-20
5.2	■ 15-20	❍ 15-20	❍ 15-20	■ 15-20	❍ 15-20	❍ 15-20	■ 15-20	❍ 15-20	❍ 15-20	❍ 15-20	❍ 15-20	❍ 15-20
5.3												
5.4												
6.1	■ 10-20			■ 10-20								
6.2												
6.3												
7.1		■ 15-20	■ 15-20		■ 15-20	■ 15-20		■ 15-20	■ 15-20	■ 15-20	■ 15-20	■ 15-20
7.2		❍ 5-8	❍ 5-8		❍ 5-8	❍ 5-8		❍ 5-8	❍ 5-8	❍ 5-8	❍ 5-8	❍ 5-8
7.3												
8.1												
8.2												
8.3												
9.1												
9.2												
9.3												
10.1												

MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

X - SERIES | **MASCHI A RULLARE** *Roll taps - Tarauds à refouler*

DIN 371



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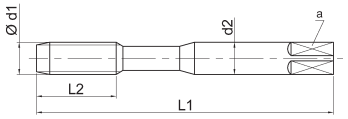

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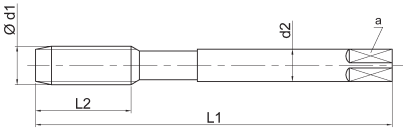
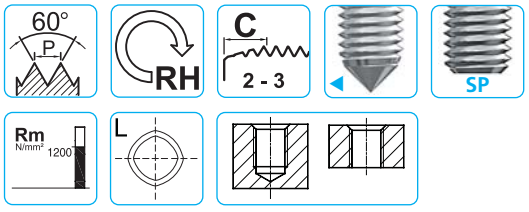




Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6HX	6HX	6GX
Trattamento superficiale - *Surface treatment - Revêtement*	CrN	TiN-G	TiCN	TiN-G
Numero gruppi materiali *Material's groups number Nombre de groupes du matériau*	1.1 1.2 4.1 4.2 4.3 5.1 5.2 6.1	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 371	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCM…NC	X2SCM…TG	X2SCM…CT	X3SCM…TG
◀	**3**	**0,5**	56	10	3,5	2,7	-	2,80	❍	●	❍	❍
◀	**4**	**0,7**	63	13	4,5	3,4	-	3,70	❍	●	❍	❍
◀	**5**	**0,8**	70	13	6	4,9	-	4,65	❍	●	❍	❍
◀	**6**	**1**	80	16	6	4,9	-	5,55	❍	●	❍	❍
◀	**8**	**1,25**	90	18	8	6,2	-	7,40	❍	●	❍	❍
◀	**10**	**1,5**	100	20	10	8	-	9,30	❍	●	❍	❍
									X2SCM …SP-NC	X2SCM …SP-TG	X2SCM …SP-CT	X3SCM…SP-TG
	8	**1,25**	90	18	8	6,2	-	7,40	❍	❍	❍	❍
	10	**1,5**	100	20	10	8	-	9,30	❍	❍	❍	❍

DIN 376	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCM…NC	X2SCM…TG	X2SCM…CT	X3SCM…TG
	12	**1,75**	110	25	9	7	-	11,20	❍	❍	❍	❍
	14	**2**	110	28	11	9	-	13,10	❍	❍	❍	❍
	16	**2**	110	28	12	9	-	15,10	❍	❍	❍	❍

Confezione / *Box / Colis:*
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ **Pag. listino** - *Price list - Liste des prix*	**40**	**40**	**41**	**41**

● Standard

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

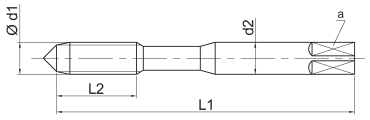
★ Solo a richiesta
Only on request / Sur demande

X - SERIES

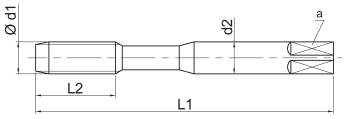
MASCHI A RULLARE
Roll taps - Tarauds à refouler

MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

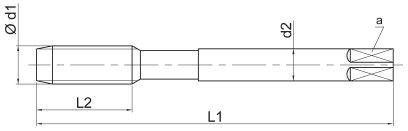
DIN 371

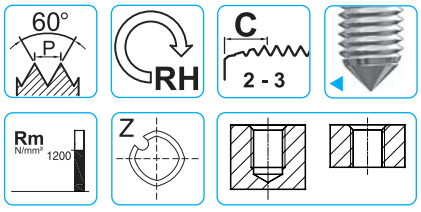


DIN 371



DIN 376





Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6HX	6HX	6GX
Trattamento superficiale - *Surface treatment - Revêtement*	CrN	TiN-G	TiCN	TiN-G
Numero gruppi materiali *Material's groups number Nombre de groupes du matériau*	1.1 1.2 4.1 4.2 4.3 5.1 5.2 6.1	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 371	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCM…NC	X2CCM…TG	X2CCM…CT	X3CCM…TG
◀	**3**	**0,5**	56	10	3,5	2,7	2	2,80	❍	●	❍	❍
◀	**4**	**0,7**	63	13	4,5	3,4	4	3,70	❍	●	❍	❍
◀	**5**	**0,8**	70	13	6	4,9	5	4,65	❍	●	❍	❍
◀	**6**	**1**	80	16	6	4,9	5	5,55	❍	●	❍	❍
◀	**8**	**1,25**	90	18	8	6,2	5	7,40	❍	●	❍	❍
◀	**10**	**1,5**	100	20	10	8	5	9,30	❍	●	❍	❍
									X2CCM …SP-NC	X2CCM …SP-TG	X2CCM …SP-CT	X3CCM…SP-TG
	8	**1,25**	90	18	8	6,2	5	7,40	❍	❍	❍	❍
	10	**1,5**	100	20	10	8	5	9,30	❍	❍	❍	❍

DIN 376	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCM…NC	X2CCM…TG	X2CCM…CT	X3CCM…TG
	12	**1,75**	110	25	9	7	5	11,20	❍	❍	❍	❍
	14	**2**	110	28	11	9	6	13,10	❍	❍	❍	❍
	16	**2**	110	28	12	9	6	15,10	❍	❍	❍	❍

Confezione / *Box / Colis:*
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ Pag. listino - *Price list - Liste des prix*	41	41	41	41

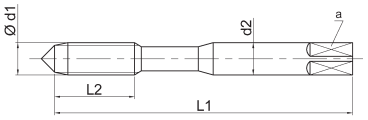
● Standard

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

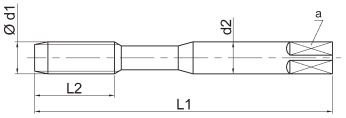
★ Solo a richiesta
Only on request / Sur demande

MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

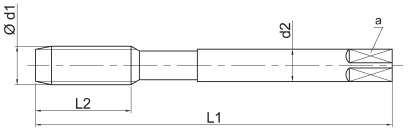
DIN 371

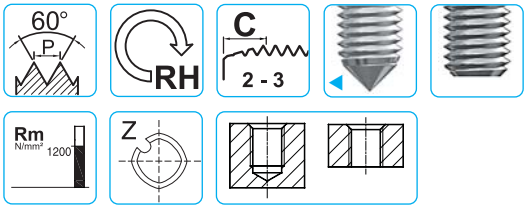


DIN 371



DIN 376





Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6HX	6HX
Trattamento superficiale - *Surface treatment - Revêtement*	TXC	TiN-G	TiN-G
Numero gruppi materiali *Material's groups number Nombre de groupes du matériau*	1.1 1.2 4.1 4.2 4.3 5.1 5.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 371	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCM…TXC	X2CCM…FOR-TG	X2CCM…FORY-TG	
◀	**3**	**0,5**	56	10	3,5	2,7	2	2,80	❍			
◀	**4**	**0,7**	63	13	4,5	3,4	4	3,70	❍			
◀	**5**	**0,8**	70	13	6	4,9	5	4,65	❍			
◀	**6**	**1**	80	16	6	4,9	5	5,55	❍			
◀	**8**	**1,25**	90	18	8	6,2	5	7,40	❍			
◀	**10**	**1,5**	100	20	10	8	5	9,30	❍			
										X2CCM…FOR-TG		
◀	**6**	**1**	80	16	6	4,9	5	5,55	-	❍		
	8	**1,25**	90	18	8	6,2	5	7,40	-	❍		
	10	**1,5**	100	20	10	8	5	9,30	-	❍		
											X2CCM…FORY-TG	
◀	**6**	**1**	80	16	6	4,9	2	5,55	-	-	❍ 4L/Z2	
◀	**8**	**1,25**	90	18	8	6,2	2	7,40	-	-	❍ 4L/Z2	
◀	**10**	**1,5**	100	20	10	8	2	9,30	-	-	❍ 4L/Z2	

DIN 376	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCM…TXC	X2CCM…FOR-TG	X2CCM…FORY-TG	
	12	**1,75**	110	25	9	7	5	11,20	❍	❍		
	14	**2**	110	28	11	9	6	13,10	❍	❍		
	16	**2**	110	28	12	9	6	15,10	❍	❍		
											X2CCM…FORY-TG	
	12	**1,75**	110	25	9	7	3	11,20	-	-	❍ 6L/Z3	
	14	**2**	110	28	11	9	3	13,10	-	-	❍ 6L/Z3	
	16	**2**	110	28	12	9	3	15,10	-	-	❍ 6L/Z3	

N° lobi / *Lobes' Number* *N° de lobes* L

N° canalini / *Oil grooves' Number* *N° de rainures de lubrifications* Z

Confezione / *Box* / *Colis*:
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ **Pag. listino** - *Price list - Liste des prix*

● Standard

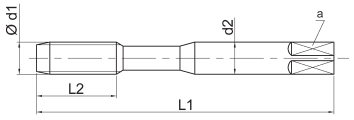
❍ Disponibilità da richiedere, prezzo a listino
On enquiry, standard price-list / Stock à vérifier

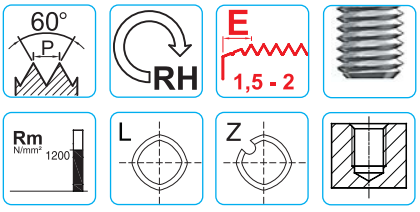
★ Solo a richiesta
Only on request / Sur demande

X - SERIES | **MASCHI A RULLARE**
Roll taps - Tarauds à refouler

MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

DIN 371





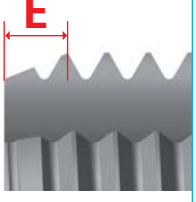
Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6HX	6HX
Trattamento superficiale - *Surface treatment - Revêtement*	TiN-G	TiN-G	TiN-G
Numero gruppi materiali *Material's groups number* *Nombre de groupes du matériau*	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 371	Ød1 M	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCEM…TG	X2CCEM…TG	X2CCEM…FOR-TG
	6	**1**	80	16	6	4,9	5	5,55	❍	❍	❍
	8	**1,25**	90	18	8	6,2	5	7,40	❍	❍	❍
	10	**1,5**	100	20	10	8	5	9,30	❍	❍	❍

Serie X2 ed X3 a rullare: processo speciale di preparazione al trattamento TIN: la resa aumenta più del 100%!

X2 and X3 for rolling Series: special preparation process for TIN treatment: an increase in efficiency of more than 100%!

Série X2 et X3 pour refoulement: processus spécial de préparation avec revêtement TIN: la performance augmente de 100 % !



1,5 -2

Confezione / *Box / Colis:*
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ **Pag. listino** - *Price list - Liste des prix*	**42**	**42**	**42**

● Standard
❍ Disponibilità da richiedere, prezzo a listino
On enquiry, standard price-list / Stock à vérifier
⋆ Solo a richiesta
Only on request / Sur demande

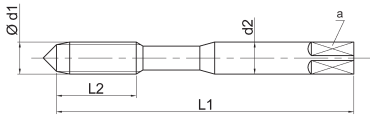
MF

Filettatura metrica ISO passo fine DIN 13
ISO metric fine thread DIN13
Filetage métrique ISO à pas fin DIN 13

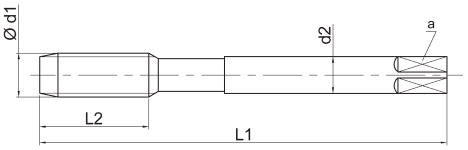
MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

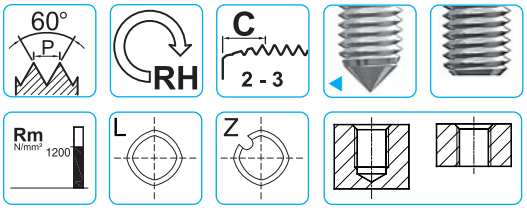
X - SERIES — **MASCHI A RULLARE** *Roll taps - Tarauds à refouler*

DIN 371



DIN 374





Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6GX	6HX	6GX
Trattamento superficiale - *Surface treatment - Revêtement*	TiN-G	TiN-G	TiN-G	TiN-G
Numero gruppi materiali *Material's groups number Nombre de groupes du matériau*	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 371	Ød1 MF	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCMF…TG	X3SCMF…TG	X2CCMF…TG	X3CCMF…TG
◀	**4**	**0,5**	63	13	4,5	3,4	4	3,75	❍	❍	❍	❍
◀	**5**	**0,5**	70	13	6	4,9	5	4,75	❍	❍	❍	❍
◀	**6**	**0,75**	80	16	6	4,9	5	5,65	❍	❍	❍	❍
◀	**8**	**1**	90	18	8	6,2	5	7,55	❍	❍	❍	❍
◀	**10**	**1**	90	15	10	8	5	9,55	❍	❍	❍	❍
◀	**10**	**1,25**	100	20	10	8	5	9,45	❍	❍	❍	❍

DIN 374	Ød1 MF	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCMF…TG	X3SCMF…TG	X2CCMF…TG	X3CCMF…TG
	12	**1**	100	22	9	7	6	11,55	❍	❍	❍	❍
	12	**1,25**	100	22	9	7	6	11,45	❍	❍	❍	❍
	12	**1,5**	100	22	9	7	6	11,30	❍	❍	❍	❍
	14	**1,25**	100	22	11	9	6	13,45	❍	❍	❍	❍
	14	**1,5**	100	22	11	9	6	13,30	❍	❍	❍	❍
	16	**1,5**	100	22	12	9	6	15,30	❍	❍	❍	❍

Confezione / *Box / Colis:*
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ Pag. listino - *Price list - Liste des prix*	70	70	70	70

● Standard

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

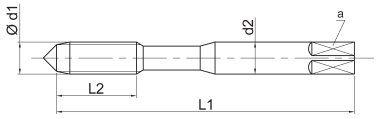
★ Solo a richiesta
Only on request / Sur demande

X - SERIES

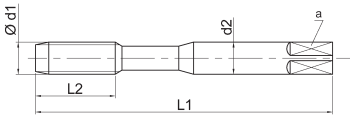
MASCHI A RULLARE
Roll taps - Tarauds à refouler

MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

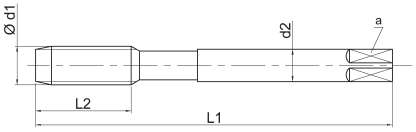
DIN 371

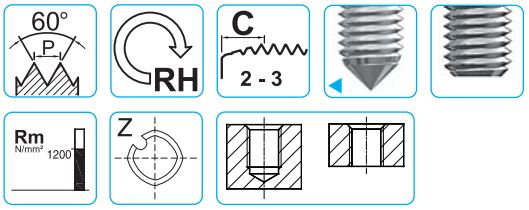


DIN 371



DIN 374





Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6HX	6HX
Trattamento superficiale - *Surface treatment - Revêtement*	TXC	TiN-G	TiN-G
Numero gruppi materiali *Material's groups number* *Nombre de groupes du matériau*	1.1 1.2 4.1 4.2 4.3 5.1 5.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 371	Ød1 MF	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCMF…TXC	X2CCMF…FOR-TG	X2CCMF…FORY-TG	
◀	**8**	**1**	90	18	8	6,2	5	7,55	❍			
◀	**10**	**1**	90	15	10	8	5	9,55	❍			
◀	**10**	**1,25**	100	20	10	8	5	9,45	❍			
										X2CCMF…FOR-TG		
	8	**1**	90	18	8	6,2	5	7,55	-	❍		
	10	**1**	90	15	10	8	5	9,55	-	❍		
	10	**1,25**	100	20	10	8	5	9,45	-	❍		
											X2CCMF…FORY-TG	
◀	**8**	**1**	90	18	8	6,2	2	7,55	-	-	❍ 4L/Z2	
◀	**10**	**1**	90	15	10	8	2	9,55	-	-	❍ 4L/Z2	
◀	**10**	**1,25**	100	20	10	8	2	9,45	-	-	❍ 4L/Z2	

DIN 374	Ød1 MF	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCMF…TXC	X2CCMF…FOR-TG	X2CCMF…FORY-TG	
	12	**1**	100	22	9	7	6	11,55	❍	❍		
	12	**1,25**	100	22	9	7	6	11,45	❍	❍		
	12	**1,5**	100	22	9	7	6	11,30	❍	❍		
	14	**1,5**	100	22	11	9	6	13,30	❍	❍		
	16	**1,5**	100	22	12	9	6	15,30	❍	❍		
											X2CCMF…FORY-TG	
	12	**1**	100	22	9	7	3	11,55	-	-	❍ 6L/Z3	
	12	**1,25**	100	22	9	7	3	11,45	-	-	❍ 6L/Z3	
	12	**1,5**	100	22	9	7	3	11,30	-	-	❍ 6L/Z3	
	14	**1,5**	100	22	11	9	3	13,30	-	-	❍ 6L/Z3	
	16	**1,5**	100	22	12	9	3	15,30	-	-	❍ 6L/Z3	

N° lobi / *Lobes' Number* L
N° de lobes

N° canalini / *Oil grooves' Number* Z
N° de rainures de lubrifications

Confezione / *Box* / *Colis:*
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ Pag. listino - *Price list - Liste des prix*	70	70	70

● Standard

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

★ Solo a richiesta
Only on request / Sur demande

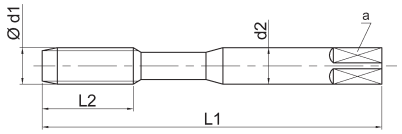
MF

Filettatura metrica ISO passo fine DIN 13
ISO metric fine thread DIN13
Filetage métrique ISO à pas fin DIN 13

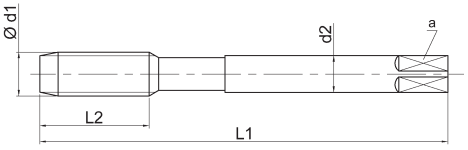
X - SERIES | **MASCHI A RULLARE** *Roll taps - Tarauds à refouler*

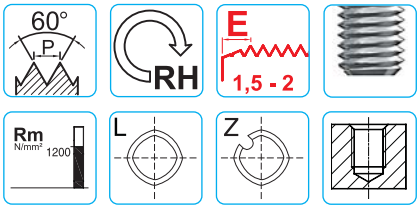
MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

DIN 371



DIN 374





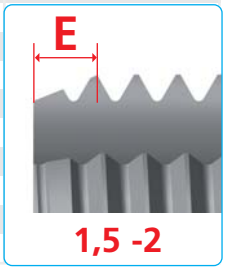
Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	6HX	6HX	6HX
Trattamento superficiale - *Surface treatment - Revêtement*	TiN-G	TiN-G	TiN-G

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

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

DIN 371	Ød1 MF	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCEMF…TG	X2CCEMF…TG	X2CCEMF…FOR-TG
	8	**1**	90	18	8	6,2	5	7,55	❍	❍	❍
	10	**1**	90	15	10	8	5	9,55	❍	❍	❍
	10	**1,25**	100	20	10	8	5	9,45	❍	❍	❍

DIN 374	Ød1 MF	P mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2SCEMF…TG	X2CCEMF…TG	X2CCEMF…FOR-TG
	12	**1**	100	22	9	7	6	11,55	❍	❍	❍
	12	**1,25**	100	22	9	7	6	11,45	❍	❍	❍
	12	**1,5**	100	22	9	7	6	11,30	❍	❍	❍
	14	**1,5**	100	22	11	9	6	13,30	❍	❍	❍
	16	**1,5**	100	22	12	9	6	15,30	❍	❍	❍



Confezione / *Box / Colis:*
M3 – M10: 10 pezzi / *pcs*
M12 – M16: 5 pezzi / *pcs*

€ **Pag. listino** - *Price list - Liste des prix*	**71**	**71**	**71**

● Standard

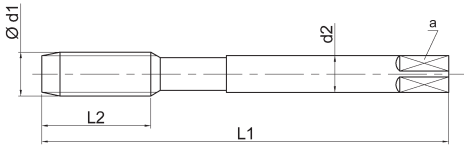
❍ Disponibilità da richiedere, prezzo a listino
On enquiry, standard price-list / Stock à vérifier

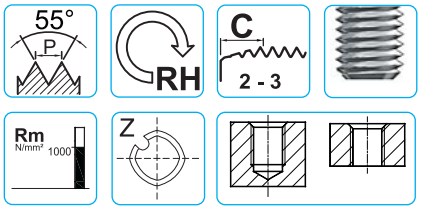
★ Solo a richiesta
Only on request / Sur demande

X - SERIES | **MASCHI A RULLARE** *Roll taps - Tarauds à refouler*

MASCHI A MACCHINA
MACHINE TAPS - TARAUDS MACHINE

DIN 5156





Profond. di filettatura - *Thread depth - Profond. de filetage*	3xD	3xD
Materiale - *Material - Matériau*	PM3	PM3
Tolleranza - *Tolerance - Tolérance*	ISO 228X	ISO 228X
Trattamento superficiale - *Surface treatment - Revêtement*	TiN-G	TiN-G
Numero gruppi materiali *Material's groups number* *Nombre de groupes du matériau*	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2	1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 2.4 4.1 4.2 4.3 5.1 5.2 7.1 7.2

DIN 5156	Ød1 GAS	P TPI	Ø mm	L_1	L_2	d_2 h9	a h12	Z		CODICE - *CODE* X2CCG...TG	X2CCG...FOR-TG
	1/8	**28**	9,73	90	15	7	5,5	5	9,25	●	❍
	1/4	**19**	13,16	100	22	11	9	6	12,5	●	❍
	3/8	**19**	16,66	100	22	12	9	6	16	●	❍
	1/2	**14**	20,96	125	25	16	12	8	20	●	❍
	3/4	**14**	26,44	140	25	20	16	8	25,5	❍	❍

Confezione: Singola
Box: Single
Colis: Unique

€ Pag. listino - *Price list - Liste des prix* **96** **96**

● Standard
❍ Disponibilità da richiedere, prezzo a listino
On enquiry, standard price-list / Stock à vérifier
★ Solo a richiesta
Only on request / Sur demande

PREFORI DI MASCHIATURA PER MASCHI A RULLARE

TAPPING DRILL SIZES FOR ROLL TAPS

PERÇAGE POUR TARAUDAGE A REFOULER

Filettatura metrica ISO DIN 13

ISO metric fine thread DIN 13 - Filetage métrique ISO pas fin DIN13

M	P mm		Toll.
2	0,4	**1,82**	± 0,02
2,2	0,45	**2,00**	± 0,02
2,3	0,4	**2,1**	± 0,02
2,5	0,45	**2,30**	± 0,02
2,6	0,45	**2,40**	± 0,02
3	0,5	**2,8**	± 0,03
3,5	0,6	**3,25**	± 0,03
4	0,7	**3,70**	± 0,03
5	0,8	**4,65**	± 0,03
6	1	**5,55**	± 0,05
8	1,25	**7,40**	± 0,05
10	1,5	**9,30**	± 0,05
12	1,75	**11,20**	± 0,05
14	2	**13,10**	± 0,05
16	2	**15,10**	± 0,05
18	2,5	**16,90**	± 0,05
20	2,5	**18,90**	± 0,05
22	2,5	**20,90**	± 0,05
24	3	**22,70**	± 0,05

Filettatura GAS Whitworth DIN EN ISO 228

Whitworth pipe thread DIN EN ISO 228

Filetage Gaz cylindrique Whitworth DIN EN ISO 228

GAS	P TPI		Toll.
1/16	28	**7,25**	±0,05
1/8	28	**9,25**	±0,05
1/4	19	**12,5**	±0,05
3/8	19	**16**	±0,05
1/2	14	**20**	±0,05
5/8	14	**22**	±0,05
3/4	14	**25,5**	±0,05
7/8	14	**29,25**	±0,05
1’	11	**32**	±0,05
1’-1/8	11	**36,70**	±0,05
1’-1/4	11	**40,70**	±0,05

Filettatura metrica ISO passo fine DIN 13

ISO metric fine thread DIN 13 - Filetage métrique ISO pas fin DIN13

MF	P mm		Toll.
4	0,5	**3,80**	±0,03
5	0,5	**4,80**	±0,03
6	0,5	**5,80**	±0,03
6	0,75	**5,65**	±0,03
8	1	**7,55**	±0,05
10	1	**9,55**	±0,05
10	1,25	**9,40**	±0,05
12	1	**11,55**	±0,05
12	1,25	**11,40**	±0,05
12	1,5	**11,30**	±0,05
14	1	**13,55**	±0,05
14	1,25	**13,40**	±0,05
14	1,5	**13,30**	±0,05
16	1	**15,55**	±0,05
16	1,25	**15,40**	±0,05
16	1,5	**15,30**	±0,05
18	1	**17,55**	±0,05
18	1,25	**17,40**	±0,05
18	1,5	**17,30**	±0,05
20	1	**19,55**	±0,05
20	1,25	**19,40**	±0,05
20	1,5	**19,30**	±0,05
20	2	**19,10**	±0,05
22	1	**21,55**	±0,05
22	1,25	**21,40**	±0,05
22	1,5	**21,30**	±0,05
22	2	**21,10**	±0,05
24	1	**23,55**	±0,05
24	1,25	**23,40**	±0,05
24	1,5	**23,30**	±0,05
24	2	**23,10**	±0,05
26	1,5	**25,30**	±0,05
26	2	**25,10**	±0,05
27	1,5	**26,30**	±0,05
27	2	**26,10**	±0,05
28	1,5	**27,30**	±0,05
28	2	**27,10**	±0,05
30	1,5	**29,30**	±0,05
30	2	**29,10**	±0,05

Attenzione! I diametri di foratura per rullare sono diversi da quelli standard!

Attention! Drills’ diameters for roll taps are different from standard ones!

Attention ! les Diamètres de perçage pour le refoulement sont différents du standard !

1	**Acciaio - *Steel - Acier***		
1.1	**Acciaio dolce magnetico Rm < 400 N/mm², < 120 HB** *Magnetic soft steel - Acier doux magnétique*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
	1.1013	RFe100	-
	1.1014	Rfe80	-
	1.1015	Rfe60	-
1.2	**Acciaio da costruzione, da cementazione, automatico Rm < 700 N/mm², < 200 HB** *Structural steel, case carburizing steel, free cutting steel - Acier de construction, en acier trempé*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
Acciaio da costruzione *Structural steel* *Acier de construction*	1.0037	St37-2	Fe360B
	1.0044	St44-2	Fe430B
	1.0050	St50-2	Fe490
	1.0060	St60-2	Fe590
	1.0070	St70-2	Fe690
	1.0570	St52-3	Fe510B, C, D
Acciaio da cementazione Case carburizing steel Acier trempé	1.0301	C10	C10
	1.0401	C15	C15
	1.0402	C22	C20, C21
	1.0406	C25	C25
	1.7131	16MnCr5	16MnCr5
	1.7147	20MnCr5	20MnCr5
	1.5919	15CrNi6	16CrNi4
	1.6523	21NiCrMo2	20NiCrMo2
	1.6587	17CrNiMo6	18NiCrMo7
Acciaio automatico (AVP) *Free cutting steel* *Acier automatique*	1.0711	9S20	CF10S20
	1.0715	9SMn28	CF9SMn28
	1.0718	9SMnPb28	CF9SMnPb28
	1.0726	35S20	CF35SMn10
	1.0736	9SMn36	CF9SMn36
	1.0737	9SMnPb36	CF9SMnPb36
1.3	**Acciaio al carbonio Rm < 850 N/mm², < 250 HB** *Plain carbon steel - Acier au carbone*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
Da bonifica *Heat-treatable steel* *De revenu*	1.0528	C30	-
	1.0501	C35	C35
	1.0511	C40	C40
	1.0503	C45	C45
	1.0540	C50	-
	1.0535	C55	C55
	1.0601	C60	C60
	1.1178	Ck30	-
	1.1181	Ck35	C35
	1.1191	Ck45	C46

Continua Acciaio al carbonio / *Continue Plain carbon steel / Acier au carbone à suivre* ➤

	W-Nr.	DIN - Germany	UNI - Italy
Per molle *Spring steel* *Pour les ressorts*	1.1231	Ck67	C70
	1.1248	Ck75	C75
	1.1269	Ck85	C85
	1.1274	Ck101	C100
Da tempra superficiale *Surface hardening* *De durcissement de surface*	1.1183	Cf35	C36, C38
	1.1193	Cf45	C43
	1.1213	Cf53	C53
Acciaio legato *Alloyed steel* *Acier allié* — **1.4**	**Acciaio legato - bonificato, fusioni d'acciaio Rm < 850 N/mm², < 250 HB** *Alloyed steel, tempered steel, steel castings - Acier allié, trempé et revenu, fusion d'acier*		
Acciaio legato *Alloyed steel* *Acier allié* — **1.5**	**Acciaio legato - bonificato Rm 850 ÷ 1200 N/mm², 250 ÷ 350 HB** *Alloyed steel, tempered steel - Acier allié, trempé et revenu*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
Da bonifica *Heat-treatable steel* *De revenu*	1.7035	41Cr4	41Cr4
	1.8159	50CrV4, 51CrV4	51CrV4
	1.7218	25CrMo4	25CrMo4
	1.7220	34CrMo4	35CrMo4
	1.7225	42CrMo4	42CrMo4
	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 *Nitriding steel* *De nitruration*	1.8515	31CrMo12	31CrMo12
	1.8519	31CrMoV9	-
	1.8507	34CrAlMo7	34CrAlMo7
	1.8509	41CrAlMo7	41CrAlMo7
Da cuscinetti *Ball bearing steel* *Roulements*	1.3505	100Cr6	100Cr6
	1.3537	100CrMo7	100CrMo7
Per molle *Spring steel* *Ressorts*	1.5025	51Si7	48Si7
	1.5026	56Si7	55Si7
	1.5027	60Si7	
	1.7108	60SiCr7	60SiCr8
	1.8159	50CrV4	50CrV4
	1.7176	55Cr3	55Cr3
	1.7701	51CrMoV4	-
Fusioni d'acciaio (ghisa acciaiosa) *Steel castings* *Acier coulé*	1.0446	GS-45	-
	1.0552	GS-52	-
	1.5919	GS-15CrNi6	-
	1.7218	GS-25CrMo4	-
	1.7220	GS-34CrMo4	-
	1.7379	GS-18CrMo9-10	-

Continua Acciaio legato / *Continue Alloyed steel / Acier allié à suivre* ➤

	W-Nr.	DIN - Germany	UNI - Italy
Per tempra superficiale *Surface hardening* *De durcissement de surface*	1.7005	45Cr2	-
	1.7006	46Cr2	46Cr2
	1.7043	38Cr4	-
	1.7034	37Cr4	36CrMn4
	1.7223	41CrMo4	41CrMo4
Per lavorazioni a caldo *Hot work tool steel* *Travail à chaud*	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 *Cold work tool steel* *Travail à froid*	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 *High speed steel* *Acier rapide*	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 *Sintered high speed steel* *Acier fritté*	-	HS 6-5-3-8	(ASP2030, ASP30)
	-	HS 10-2-5-8	(ASP2052, ASP52)
	-	HS 6-7-6-10	(ASP2060, ASP60)
2	**Acciaio INOX - *Stainless Steel - Acier inoxydable***		
2.1	**Acciaio INOX automatico Rm < 850 N/mm², < 250 HB** *Free machining stainless steel - Automatique acier inoxydable*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
	1.4104	X14CrMoS17	X10CrS17 (AISI 430F)
	1.4305	X8CrNiS18-9	X10CrNiS18-9 (AISI 303)

Continua Acciaio INOX / *Continue Stainless Steel / Acier inoxydable à suivre* ➤

2.2	**Austenitico Rm < 850 N/mm², < 250 HB** *Austenitic stainless steel - Austénitique*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
	1.4301	X5CrNi18-10	X5CrNi18-10 (AISI 304)
	1.4306	X2CrNi19-11	X2CrNi18-11 (AISI 304L)
	1.4401	X5CrNiMo18-10	X5CrNiMo17-12 (AISI 316)
	1.4404	X2CrNiMo17-13-2	X2CrNiMo17-12 (AISI 316L)
	1.4406	X2CrNiMoN17-12-2	X2CrNiMoN17-12 (AISI 316LN)
	1.4435	X2CrNiMo18-14-3	X2CrNiMo17-13
	1.4438	X2CrNiMo18-16-4	X2CrNiMo18-15 (AISI 317L)
	1.4541	X6CrNiTi18-10	X6CrNiTi18-11 (AISI 321)
	1.4550	X6CrNiNb18-10	X8CrNiNb18-11 (AISI 347)
	1.4828	X15CrNiSi20-12	X16CrNi23-14
	1.4841	X15CrNiSi25-20	X16CrNiSi25-20 (AISI 314)
	1.4845	X12CrNi25-21	X6CrNi25-20 (AISI 310S)
2.3	**Ferritico, Ferritico + Austenitico, Martensitico Rm < 1100 N/mm², < 320 HB** *Ferritic, ferritic + austenitic, martensitic - Ferritique, ferritique + austénitique, martensitique*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
Ferritico *Ferritic* *Ferritique*	1.4002	X6CrAl13	X6CrAl13 (AISI 405)
	1.4003	X2Cr11	X2CrNi12
	1.4016	X6Cr17	X8Cr17 (AISI 430)
	1.4510	X6CrTi17	X6CrTi17 (AISI 430Ti)
	1.4509	X2CrTiNb18	X2CrTiNb18
	1.4512	X5CrTi12	X6CrTi12 (AISI 409)
Ferritico + austenitico (Bifasico) *Ferritic + austenitic (Duplex)* *Ferritique+austénitique, (biphasique)*	1.4462	X2CrNiMoN22-5-3	X2CrNiMoN22-5-3
	1.4501	X2CrNiMoCuWN25-7-4	X2CrNiMoCuWN25-7-4
Martensitico *Martensitic* *Martensitique*	1.4006	X10Cr13	X12Cr13 (AISI 410)
	1.4005	X12CrS13	X12CrS13 (AISI 416)
	1.4021	X20Cr13	X20Cr13 (AISI 420)
	1.4028	X30Cr13	X30Cr13
	1.4057	X17CrNi16-2	X16CrNi16 (AISI 431)
	1.4125	X105CrMo17	(AISI 440C)
4	**Alluminio, Magnesio - *Aluminium, Magnesium - Alliage, Magnésium***		
4.1	**Alluminio / Magnesio non legato Rm < 350 N/mm², < 100 HB** *Aluminium / Magnesium unalloyed - Aluminium / Magnésium non allié*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
	3.0205	Al99	3567 (9001/1)
	3.0255	Al99.5	4507 (9001/2)
	3.0285	Al99.8	4509 (9001/4)
	3.0305	Al99.9	-
	3.3208	Al99.9MgSi	-
	3.3308	Al99.9Mg0.5	-
	3.3318	Al99.9Mg1	-
4.2	**Leghe di Al, Si < 0,5% - truciolo lungo Rm < 500 N/mm², < 150 HB** *Al alloys, long chipping - Alliage, coupeaux longs*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
Si < 0,5% Leghe da deformazione plastica *Al wrought alloys* *Alliages par déformation plastique*	3.0505	AlMn0.5Mg0.5	(AISI 3105)
	3.0915	AlFeSi	(AISI 8011A)
	3.3315	AlMg1	5764 (5005, Peraluman100)

Continua leghe di Magnesio / *Continue Magnesium alloys / Alliages de Magnésium à suivre* ➤

4.2	W-Nr.	DIN - Germany	UNI - Italy
Si < 0,5% Leghe da deformazione plastica *Al wrought alloys* *Alliages par déformation plastique*	3.3525	AlMg2Mn0.3	(AISI 5251)
	3.3527	AlMg2Mn0.8	(AISI 5049)
	3.3545	AlMg4Mn	(AISI 5086)
	3.3555	AlMg5	(AISI 5056A)
	3.0615	AlMgSiPb	(AISI 6012)
	3.1255	AlCuSiMn	3581 (AISI2014)
	3.1325	AlCuMg1	3579 (AISI 2017A, Avional 100)
	3.1355	AlCuMg2	3583 (AISI 2024, Avional 150)
	3.3547	AlMg4.5Mn	7790 (AISI 5083, Peraluman 460)
	3.3206	AlMgSi0.5	3569 (AISI 6060, Anticorodal 050)
	3.2315	AlMgSi1	3571 (AISI 6082, Anticorodal 110)
	3.4365	AlZnMgCu1.5	3735 (AISI 7075, Ergal 55)
Si < 0,5% Leghe da getti *Al casting alloys* *Tarauds pour alliages coulée*	3.1371	G-AlCu4TiMg	-
	3.3241	G-AlMg3Si	-
	3.3261	G-AlMg5SI	-
	3.3541	G-AlMg3	-
4.3	**Leghe di Al, Si < 10% - truciolo medio Rm < 500 N/mm², < 150 HB** *Al alloys, medium chipping - Alliage Al - coupeaux moyens*		
	W-Nr.	**DIN - Germany**	**UNI - Italy**
Si < 10% Leghe da getti *Al casting alloys* *Tarauds pour alliages coulée*	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
5	**RAME - *Cooper - Cuivre***		
5.1	**Rame puro, rame elettrolitico - truciolo lungo Rm < 350 N/mm², < 100 HB** *Cooper unalloyed, long chipping - Cuivre pur, cuivre électrolytique, coupeaux longs*		
	W-Nr.	**DIN - Germany**	**Denom. comm./*Trade name/Nom comm.***
	2.0040	OF-Cu	-
	2.0060	E-Cu57	-
	2.0065	E-Cu58	-
	2.0070	Se-Cu	-
	2.0076	SW-Cu	-
	2.0090	SF-Cu	-
5.2	**Leghe di rame, α ottone - truciolo lungo Rm < 700 N/mm², < 200 HB** *Cooper alloys, soft brass, long chipping - Alliages de cuivre, αlaiton, coupeaux longs*		
	W-Nr.	**DIN - Germany**	**Denom. comm./*Trade name/Nom comm.***
Ottone / Brass / Laiton	2.0240		CuZn15, Ms85 -
	2.0250	CuZn20, Ms80	-
	2.0265	CuZn30, Ms70	-
	2.0280	CuZn33, Ms67	-
	2.0321	CuZn37, Ms63	-
	2.0335	CuZn36, Ms64	-
Bronzo / *Bronze*	2.1016	CuSn4	-
	2.1020	CuSn6	-
	2.1030	CuSn8	-
	2.1080	CuSn6Zn6	-

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.

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