

**HIGH PERFORMANCE TAPS
MASCHI AD ALTO RENDIMENTO
HOCHLEISTUNGGEWINDEBOHRER
TARAUDS HAUTE PERFORMANCE**

SYNCHRO ULTRA FAST .56
SYNCHRO FAST .60
UH-CT CARBIDE .62
CT-FC CARBIDE .64
DRY .66

SYNCHRO ULTRA FAST

🇬🇧 The YAMAWA - ULTRA FAST series has been developed for high speed tapping on rigid clamping and full synchro machines. Coating: TiCN, TiAlN. Geometry: ULTRA FAST taps geometry is specifically designed to minimize the cutting torque and get long tool life even at ultra fast cutting speed. Internal coolant: the ULTRA FAST taps for blind holes are designed with a single central hole. The ULTRA FAST taps for through holes are designed with side holes inside the tap's grooves. Shank: the reinforced shank, designed with the most accurate tolerance, allows high toughness and high precision even at ultra fast cutting speed. Holder: high precision holders or high gripping power holders must be used.

🇮🇹 La serie YAMAWA - ULTRA FAST è ideata per filettature ultra rapide su macchine con maschiatura rigida e sincronizzata. Rivestimento: TiCN, TiAlN. Geometria: la geometria dei maschi ULTRA FAST è specificamente disegnata per ridurre al massimo gli attriti di taglio e garantire una lunga durata dell'utensile anche a velocità ultra rapide. Lubrificazione interna: i maschi per fori ciechi sono disegnati con un unico foro centrale. I maschi per fori passanti, sono disegnati con fori laterali all'interno delle scanalature. Gambo: il gambo rinforzato, costruito con tolleranze molto accurate, garantisce tenacità e massima precisione anche ad altissima velocità. Mandrino: per l'uso dei maschi ULTRA FAST è indispensabile utilizzare mandrini ad alta precisione.

🇩🇪 Die YAMAWA - ULTRA FAST Serie ist für ultraschnelle Gewinde auf synchronisierte Maschinen und mit starrer Befestigung ausgedacht worden. Beschichtung: TiCN, TiAlN. Geometrie: die Geometrie der Gewindebohrer. ULTRA FAST ist besonders für die maximale Schneiddrucksenkung und für eine längere Standzeit auch bei ultraschnellen Geschwindigkeit konzipiert worden. Innere Kühlmittelzuführung: Die Gewindebohrer für Grundlöcher haben einen einzigen zentralen Loch. Die Gewindebohrer für Durchgangslöcher haben seitliche Löcher in den Nuten. Schaft: Der mit genauer Toleranz hergestellte verstärkte Schaft, besorgt Härte und Präzision auch bei ultraschneller Geschwindigkeit. Spindel: für die Benutzung der ULTRAFAST Gewindebohrer braucht man Hochleistungsspindel.

🇫🇷 La série YAMAWA - ULTRA FAST a été étudiée pour le filetage ultra-rapide dans des machines à taraudage rigide et synchronisé. Revêtement: TiCN, TiAlN. Géométrie: la géométrie des tarauds ULTRA FAST est spécialement dessinée pour réduire le plus possible les frottements de coupe et garantir une longue durée de vie de l'outil, même à très grande vitesse. Lubrification intérieure: les tarauds pour trous borgnes sont dessinés avec un seul trou central. Les tarauds pour trous débouchants sont dessinés avec des trous latéraux à l'intérieur des rainures. Queue: la queue renforcée, construite avec des tolérances très soignées, garantit la plus grande précision et tenacité, même à très grande vitesse. Mandrin: pour l'emploi des tarauds ULTRA FAST il est indispensable employer des mandrins de haute précision.

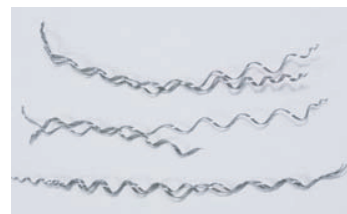


HFIHS M8x1,25

machine / macchina	machining centre / centro di lavoro
material / materiale	(15~17HRC) carbon steel / acciaio al carbonio
hole Ø / Ø foro	6,8mm
hole length / lunghezza foro	18mm blind / cieco
thread length / lunghezza filetto	12mm
Vc	50m/min
Vf	synchro controlled / controllo sincro
lubricant / lubrificante	(5%) emulsion / emulsione



thread finishing / finitura filetto
Gewindefertigbearbeitung / finissage du filet



chips / truciolo
Span / copeau

HFASP M8x1,25

machine / macchina	machining centre / centro di lavoro
material / materiale	(50~63HRB) aluminium / alluminio
hole Ø / Ø foro	6,8mm
hole length / lunghezza foro	18mm blind / cieco
thread length / lunghezza filetto	12mm
Vc	100m/min
Vf	synchro controlled / controllo sincro
lubricant / lubrificante	(5%) emulsion / emulsione



thread finishing / finitura filetto
Gewindefertigbearbeitung / finissage du filet



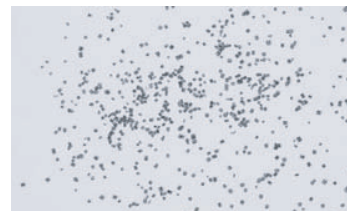
chips / truciolo
Span / copeau

HFICT-P M8x1,25

machine / macchina	machining centre / centro di lavoro
material / materiale	(85HRB) grey cast iron / ghisa grigia
hole Ø / Ø foro	6,8mm
hole length / lunghezza foro	12mm through / passante
thread length / lunghezza filetto	12mm
Vc	50m/min
Vf	synchro controlled / controllo sincro
lubricant / lubrificante	(5%) emulsion / emulsione



thread finishing / finitura filetto
Gewindefertigbearbeitung / finissage du filet



chips / truciolo
Span / copeau

HDISL M8x1,25

machine / macchina	machining centre / centro di lavoro
material / materiale	(15~17HRC) carbon steel / acciaio al carbonio
hole Ø / Ø foro	6,8mm
hole length / lunghezza foro	12mm through / passante
thread length / lunghezza filetto	12mm
Vc	20m/min
Vf	synchro controlled / controllo sincro
lubricant / lubrificante	dry / secco



thread finishing / finitura filetto
Gewindefertigbearbeitung / finissage du filet



chips / truciolo
Span / copeau

HDISL M12x1,5

machine / macchina	machining centre / centro di lavoro
material / materiale	(C40) carbon steel / acciaio al carbonio
hole Ø / Ø foro	10,5mm
hole length / lunghezza foro	32mm through / passante
thread length / lunghezza filetto	32mm
Vc	90m/min
Vf	synchro controlled / controllo sincro
lubricant / lubrificante	(6%) emulsion / emulsione
tool life / durata utensile	3000 thread / filetti

HFISP M20x1,5

macchina / machine	centro di lavoro / machining centre
materiale / material	ghisa nodulare / nodular cast iron (GGG-40)
Ø foro / hole Ø	18,5mm
lunghezza foro / hole length	48mm cieco / blind
lunghezza filetto / thread length	40mm
Vc	56 m/min
Vf	controllo sincro / synchro controlled
lubrificante / lubricant	emulsione / emulsion (7%)
durata utensile / tool life	4900 filetti / thread

HDISL M16x2

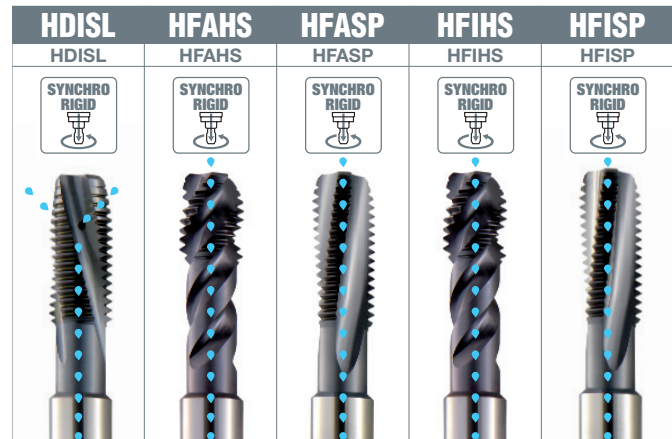
machine / macchina	machining centre / centro di lavoro
material / materiale	(40CrMnMoS 8 6) alloy steel / acciaio legato
hole Ø / Ø foro	14mm
hole length / lunghezza foro	32mm through / passante
thread length / lunghezza filetto	32mm
Vc	50m/min
Vf	synchro controlled / controllo sincro
lubricant / lubrificante	(6%) emulsion / emulsione
tool life / durata utensile	6000 thread / filetti

HFISP M12x1,75

macchina / machine	centro di lavoro / machining centre
materiale / material	ghisa nodulare / nodular cast iron (GGG-40)
Ø foro / hole Ø	10,3mm
lunghezza foro / hole length	38mm cieco / blind
lunghezza filetto / thread length	30mm
Vc	56 m/min
Vf	controllo sincro / synchro controlled
lubrificante / lubricant	emulsione / emulsion (7%)
durata utensile / tool life	7800 filetti / thread

M, MF
YAMAWA
NORM

MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiCN
1-5		40~80
6		30~50
9-10-11		25~45
13-14		40~80
15-20		50~100



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									1-5 6 9-11 13 14 15-20	15-20	15-20	1-5 6 9-11 14	1-5 6 9-11 13 14
 M6 M8~									L15°-OH	48°-OH	8°-OH	48°-OH	8°-OH
									HSSE TiCN	HSSE TiCN	HSSE TiCN	HSSE TiCN	HSSE TiCN
									P CLASS	P CLASS	P CLASS	P CLASS	P CLASS
									5 P	2,5 P	2,5 P	2,5 P	2,5 P
D	p	Ø	L	l	*	l1	d	k	Stock	Stock	Stock	Stock	Stock
M 6	1	5.0	62	19	11	27	-	6	● (P4)	● (P4)	● (P4)	● (P4)	● (P4)
8	1.25	6.8	70	22	12		36	8	● (P4)	● (P4)	● (P4)	● (P4)	● (P4)
10	1.5	8.5	75	24	13		37	10	● (P4)	● (P4)	● (P4)	● (P4)	● (P4)
12	1.75	10.3	82	29	15		40	12	● (P4)	● (P4)	● (P4)	● (P4)	● (P4)
14	2	12	88	30			40	12	● (P4)				● (P4)
16	2	14	95	32			43	16	● (P4)				● (P4)
20	2.5	17.5	105	37			45	16	○ (P5)				● (P5)
MF10	1.25	8.8	75	24	12		37	10	● (P4)	○ (P4)	○ (P4)	○ (P4)	● (P4)
12	1.5	10.5	82	29	14		40	12	● (P4)	○ (P4)	○ (P4)	○ (P4)	● (P4)
12	1.25	10.8	82	29	14		40	12	● (P4)	○ (P4)	○ (P4)	○ (P4)	● (P4)
14	1.5	12.5	88	30	14		40	12	● (P4)	○ (P4)	○ (P4)	○ (P4)	● (P4)
16	1.5	14.5	95	32	14		43	16	● (P4)	○ (P4)	○ (P4)	○ (P4)	● (P4)
18	1.5	16.5	100	37	14		45	16	○ (P4)	○ (P4)	○ (P4)	○ (P4)	○ (P4)
20	1.5	18.5	105	37	14		45	16	○ (P5)	○ (P5)	○ (P5)	○ (P5)	○ (P5)

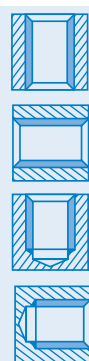
*HDISL, HFISP, HFASP

P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 6 ~ 16	3	3	3	3	3
18 ~ 20	4	3	3	4	4

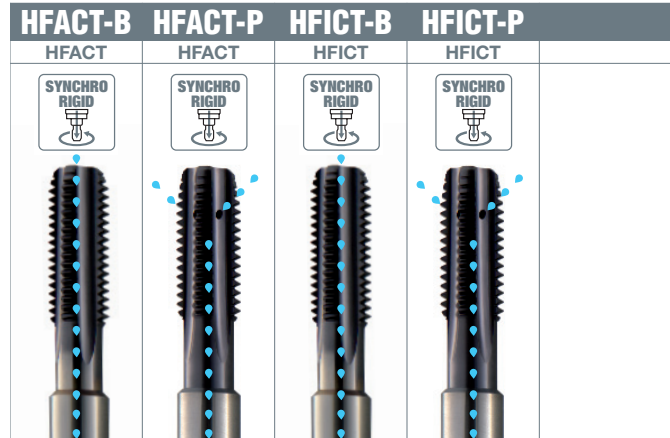


● Most suitable / scelta prioritaria / Geeignetest / le plus indiqué

○ Alternative / scelta alternativa / Geeignet / indiqué

M, MF
YAMAWA NORM

MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiAlN
13 - 14		50~100
16		100~



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE											
								16	16	13 14	13 14
								STR-OH-B	STR-OH-P	STR-OH-B	STR-OH-P
								CARBIDE	CARBIDE	CARBIDE	CARBIDE
								TiAlN	TiAlN	TiAlN	TiAlN
								P CLASS	P CLASS	P CLASS	P CLASS
								2,5 P	4 P	2,5 P	4 P
D	p	Ø	L	l1	l2	d		Stock	Stock	Stock	Stock
M 6	1	5.0	62	19	27	-	6	○ (P3)	○ (P3)	○ (P3)	○ (P3)
8	1.25	6.8	70	22	36	8		○ (P3)	○ (P3)	○ (P3)	○ (P3)
10	1.5	8.5	75	24	37	10		○ (P3)	○ (P3)	○ (P3)	○ (P3)
12	1.75	10.2	82	29	40	12		○ (P3)	○ (P3)	○ (P3)	○ (P3)
MF10	1.25	8.8	75	24	37	10		○ (P3)	○ (P3)	○ (P3)	○ (P3)
12	1.5	10.5	82	29	40	12		○ (P3)	○ (P3)	○ (P3)	○ (P3)
12	1.25	10.8	82	29	40	12		○ (P3)	○ (P3)	○ (P3)	○ (P3)

P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



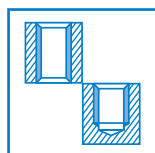
M 6 ~ 12	3	3	4	4
	●	●	●	●
	●	●	●	●

● Most suitable / scelta prioritaria / Geeignetest / le plus indiqué

○ Alternative / scelta alternativa / Geeignet / indiqué

**TAPS
MASCHI
GEWINDEBOHRER
TARAUDS**

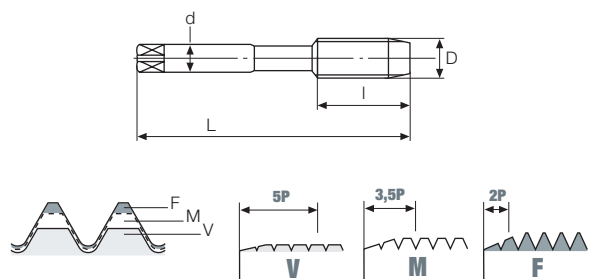
M .	70
MJ .	111
MF .	112
UNC/F - UN-8 .	130
UNJC/F .	137
G - Rp .	139-146
NPT - NPTF - Rc .	147-148-149
BSW .	150
Pg/EG .	152-153
ISO529 .	154



MATERIAL GROUP	Vc (m/min)	
	HAND	MACHINE (6110F)
1~5		5~10
13 - 14		5~10
16 - 19 - 20		5~10



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE



								1~5 13 14 16 19 20			
								1~5 13 14 16 19 20			
								STR			
								HSS			
								BR			
								ISO2 (6H)			
								V+M+F SET			
								V			
								M			
								F			
D	p	Ø	L	l	d	k	Stock	Stock			
M 1	0.25	0.75	32	5.5	2.5	2.1	○	○	○	○	
1.1	0.25	0.85	32	5.5	2.5	2.1	○	○	○	○	
1.2	0.25	0.95	32	5.5	2.5	2.1	○	○	○	○	
1.4	0.3	1.1	32	7	2.5	2.1	○	○	○	○	
1.6	0.35	1.25	32	8	2.5	2.1	○	○	○	○	
1.7	0.35	1.35	32	8	2.5	2.1	○	○	○	○	
1.8	0.35	1.45	32	8	2.5	2.1	○	○	○	○	
2	0.4	1.6	36	8	2.8	2.1	●	●	●	●	
2.2	0.45	1.75	36	9	2.8	2.1	○	○	○	○	
2.3	0.4	1.9	36	9	2.8	2.1	○	○	○	○	
2.5	0.45	2.1	40	9	2.8	2.1	●	●	●	●	
2.6	0.45	2.2	40	9	2.8	2.1	○	○	○	○	
3	0.5	2.5	40	11	3.5	2.7	●	●	●	●	
3.5	0.6	2.9	45	13	4	3	○	○	○	○	
4	0.7	3.3	45	13	4.5	3.4	●	●	●	●	
4.5	0.75	3.8	50	16	6	4.9	○				
5	0.8	4.2	50	16	6	4.9	●	●	●	●	
6	1	5	50	19	6	4.9	●	●	●	●	
7	1	6	50	19	6	4.9	○	○	○	○	
8	1.25	6.8	56	22	6	4.9	●	●	●	●	
9	1.25	7.8	63	22	7	5.5	○	○	○	○	
10	1.5	8.5	70	24	7	5.5	●	●	●	●	
12	1.75	10.3	75	29	9	7	●	●	●	●	
14	2	12	80	30	11	9	●	●	●	●	
16	2	14	80	32	12	9	●	●	●	●	
18	2.5	15.5	95	40	14	11	●	●	●	●	
20	2.5	17.5	95	40	16	12	●	●	●	●	
22	2.5	19.5	100	40	18	14.5	○	○	○	○	
24	3	21	110	50	18	14.5	●	●	●	●	
27	3	24	110	50	20	16	○	○	○	○	
30	3.5	26.5	125	56	22	18	○	○	○	○	

*M1 ~ M1.4 Tol. = 4H

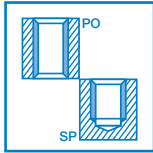
● stock standard ○ non-standard stock △ on request EX stock exhaustion



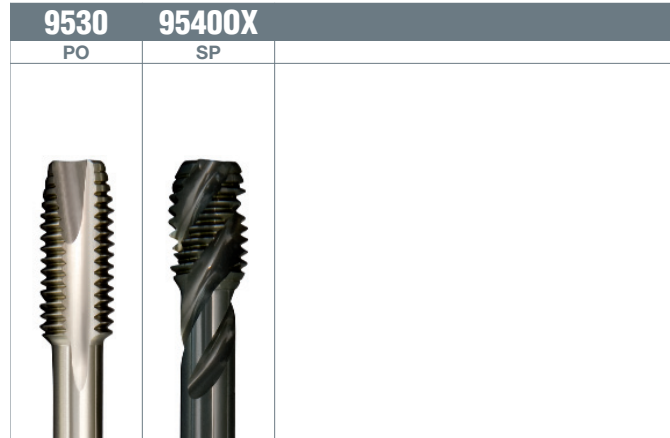
M 1 ~ 6
7 ~ 30

3
4

3
4



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~15	
9 - 10	3~8	
13 - 14	8~15	
15~20	10~20	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									1-5 13 14 15-20		1-5 9 10	
									PO	40°		
									HSSE	HSSE		
									BR	OX		
									ISO2 (6H)	ISO2 (6H)		
									3.5P~5P B	2P~3P C		
D	p	Ø	L	l	*	d	k		Stock	Stock		
M 3	0.5	2.5	40	11	5	3.5	2.7		○	○		
4	0.7	3.3	45	13	7	4.5	3.4		●	●		
5	0.8	4.2	50	16	9	6	4.9		●	●		
6	1	5	50	19	11	6	4.9		●	●		
8	1.25	6.8	56	22	12	6	4.9		●	●		
10	1.5	8.5	70	24	13	7	5.5		●	●		
12	1.75	10.3	75	29	15	9	7		○	●		
14	2	12	80	30	18	11	9		○	○		
16	2	14	80	32	18	12	9		○	○		
20	2.5	17.5	95	40	20	16	12		○	○		

*1-9540..

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 16	3	3
18 ~ 20	3	4

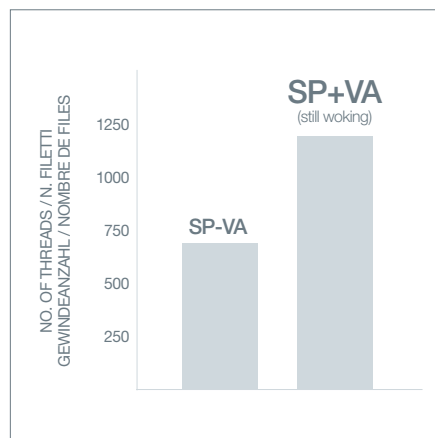
version **UP⁺**

PLUS SHANK TOLERANCE
CUTTING GEOMETRY
FINISHING
CUTTING SPEED
TOOL LIFE

PLUS TOLLERANZA DEL GAMBO
GEOMETRIA DI TAGLIO
FINITURA
VELOCITÀ DI TAGLIO
DURATA UTENSILE

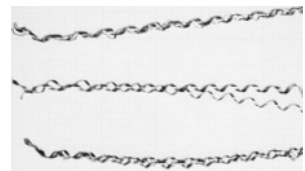
PLUS SCHAFTTOLERANZ
SCHNITTGEOMETRIE
ENDBEARBEITUNG
SCHNITTGESCHWINDIGKEIT
WERZEUGSTANDZEIT

PLUS TOLÉRANCE DE QUEUE
GÉOMÉTRIE DE COUPE
FINITION
VITESSE DE COUPE
DURÉE DE L'OUTIL



version **UP⁺**

SP+VA 1250 holes



chip shape / forma del truciolo
Spanform / forme des copeaux

STANDARD

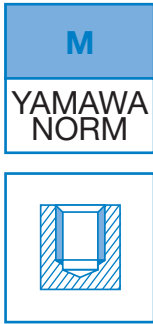
SP-VA 750 holes



chip shape / forma del truciolo
Spanform / forme des copeaux

LASER MARKING ON THE SQUARE TO PROTECT SHANK ACCURACY
MARCATURA LASER SUL QUADRO PER PRESERVARE LA PRECISIONE DEL GAMBO
LASE MARKIERUNG AUF DER VIERKANT UM DER PRÄZISION DER SCHAFT ZU HALTEN
MARQUAGE LASER SUR LE CARRÉ POUR PRÉSERVER LA PRÉCISION DE LA QUEUE





MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	10~20	
9 - 10	10~20	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									1-5 9 10		1-5 9 10					
									45°	45°						
									HSSE	HSSE						
									OX	OX						
									ISO2 (6H)	ISO2 (6H)						
									2P~3P C	2P~3P C						
D	p	Ø	L	l	l1	d	k		Stock	Stock						
M 3	0.5	2.5	56	6,5	18	4			●							
4	0.7	3.3	63	9	21	6			●							
5	0.8	4.2	70	10,5	25	6			●							
3	0.5	2.5	56	6,5	18	4	3			●						
4	0.7	3.3	63	9	21	6	4,9			●						
5	0.8	4.2	70	10,5	25	6	4,9			●						
6	1	5	80	15	30	6	4,9			●						
8	1.25	6.8	90	19	35	8	6,2			●						
10	1.5	8.5	100	23	40	10	8			●						
12	1.75	10.3	110	26	45	12	9			●						

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 8
10 ~ 12



VPM



VP

A diagram of a square hole with a chamfered bottom corner. The chamfer angle is indicated by a dashed line and labeled α .

9640	9640TH	9640LH	96406G	964005
SP	SP	SP-LH	OS-SP	OS-SP
		 left-hand thread / filettatura sinistra linksgewinde / filetage à gauche	 oversized / maggiorato / übermaß / surcoût	 oversized / maggiorato / übermaß / surcoût

M	1	~	2.6
	3	~	10

● stock standard ○ non-standard stock △ on request EX stock exhaustion

NEW

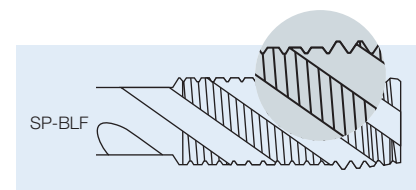


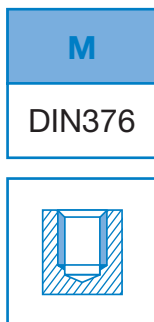
1-5 13 14 15-20	1 2 15-20	15 17 18	1-5 13 14 15-20	1-5 13 14 15-20	1-5 9 10	1-5 9 10 13 14 15 16 18-20	1-5 9 10 13 14 15 16 18-20
40°	45°	45°	BLF40°	BLF40°	BLF40°	BLF40°	BLF40°
HSSE BR	HSSE BR	HSSE BR	HSSE BR	HSSE BR	HSSE OX	HSSE TiCN	HSSE TiN
ISO2+0,10 (6H+0,10)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)
2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P E	2P~3P C	2P~3P C	2P~3P C

Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	D	p
								M 1	0.25
								1.2	0.25
								1.4	0.3
								1.6	0.35
	●							2	0.4
	●							2.5	0.45
								2.6	0.45
○	●	●	●	○	●	●	●	3	0.5
								3.5	0.6
●	●	●	●	●	●	●	●	4	0.7
●	●	●	●	●	●	●	●	5	0.8
●	●	●	●	●	●	●	●	6	1
								7	1
●	●		●	●	●	●	●	8	1.25
●	●		●	●	●	●	●	10	1.5

● stock standard ○ non-standard stock △ on request EX stock exhaustion

3	3	2	3	3	3	3	3	M 1 ~ 2.6
								3 ~ 10





MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~15	10~25
9 - 10	4~8	6~12
13 - 14	8~15	12~25
15~20	10~20	15~25



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE										1~5 13 14 15-20	1~5 9 10	1~5 13 14 15-20	1~5 13 14 15-20	1~5 13 14 15-20
										40° HSSE BR ISO2 (6H) 2P~3P C	40° HSSE PV15 ISO2 (6H) 2P~3P C	LH40° HSSE BR ISO2 (6H) 2P~3P C	40° HSSE BR ISO3 (6G) 2P~3P C	40° HSSE BR ISO2+0,05 (6H+0,05) 2P~3P C
D	p	Ø	L	I	*	l2	d	k		Stock	Stock	Stock	Stock	Stock
M 3	0.5	2.5	56	5		17	2.2		○					
4	0.7	3.3	63	7		19	2.8	2.1	○					
5	0.8	4.2	70	9		22	3.5	2.7	●					
6	1	5	80	11		25	4.5	3.4	●					
8	1.25	6.8	90	12		28	6	4.9	●					
10	1.5	8.5	100	13		35	7	5.5	●					
12	1.75	10.3	110	15	29	42	9	7	●	●	●	●	○	
14	2	12	110	18	30	49	11	9	●	●	○	○		
16	2	14	110	18	32	56	12	9	●	●	●	○		
18	2.5	15.5	125	20	34	63	14	11	●	○	○			
20	2.5	17.5	140	20	34	70	16	12	●	○	●			
22	2.5	19.5	140	20	34	77	18	14.5	●					
24	3	21	160	25	38	84	18	14.5	●					
27	3	24	160	25	38	95	20	16	●					
30	3.5	26.5	180	30	45	105	22	18	●					
33	3.5	29.5	180	30	50	115	25	20	●					
36	4	32	200	40	55	126	28	22	●					
39	4	35	200	40	60	135	32	24	●					
42	4.5	37.5	200	40		135	32	24	●					
45	4.5	40.5	220	45		155	36	29	○					
48	5	43	250	45		168	36	29	●					

*1-9747..

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 10	3				
12 ~ 16	3	3	3	3	3
18 ~ 48	4	4	4		

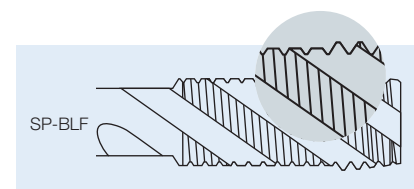
NEW

M (MJ)

974010	9742	97422F	9747	9747E	97470X	9747TC	9747TI		
OS-SP	HISP	HISP	SP-BLF	SP-BLF-E	SP-BLF	SP-BLF	SP-BLF		
oversized / maggiorato / übermaß / surcoté									
	1-5 13 14 15-20	1 2 15-20	15 17 18	1-5 13 14 15-20	1-5 13 14 15-20	1-5 9 10	1-5 9 10 13 14 15 16 18-20	1-5 9 10 13 14 15 16 18-20	
	40°	45°	45°	BLF40°	BLF40°	BLF40°	BLF40°	BLF40°	
	HSSE BR	HSSE BR	HSSE BR	HSSE BR	HSSE BR	HSSE OX	HSSE TiCN	HSSE TiN	
	ISO2+0,10 (6H+0,10)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	
	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	
Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	
									D
									M 3
									4
									5
									6
									8
									10
●	○		●	●	●	●	●	●	12
	○		●	○	●	●	●	●	14
	○		●	○	●	●	●	●	16
			●		●	●	●	●	18
			●	○	●	●	●	●	20
			○		●	○	○	○	22
			●		●	●	●	●	24
					●				27
					●				30
					●				33
					●				36
									39
									42
									45
									48

● stock standard ○ non-standard stock △ on request EX stock exhaustion

3	3	2	3	3	3	3	3	M 3 ~ 10
			4	4	4	4	4	12 ~ 16
								18 ~ 48



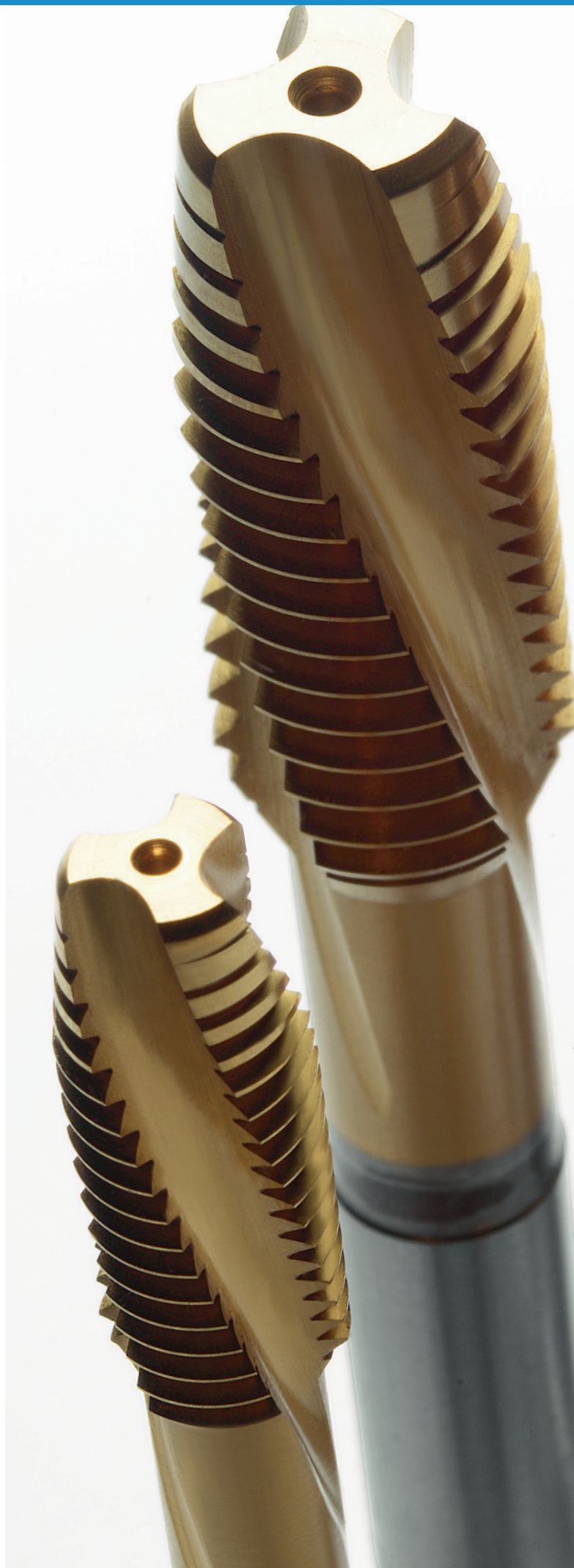
SYNCHRO FAST

🇬🇧 Using the FAST TAPS, you can reduce the tapping costs thanks to a 3 times higher tapping speed. The FAST TAPS are made of top quality HSSE able to reduce the cutting pressure and to increase the tool breaking resistance. The TiN coating reduces the chance of chip welding. Thanks to their special shape, the FAST TAPS produce accurate threads even at high speed. We recommend the use of FAST TAPS on machines with synchronized feed-rate/rotation and rigid tapping attachment. Steel $\leq 800 \text{ N/mm}^2$.

🇮🇹 Utilizzando i FAST TAPS si riducono i costi di maschiatura, grazie al considerevole aumento della velocità di rotazione, sino a 3 volte i valori standard. I FAST TAPS sono costruiti con i migliori HSSE, specifici per ridurre gli attriti, aumentare la durata e la tenacità dell'utensile. Il rivestimento TiN riduce sensibilmente l'incollaggio del materiale sul tagliente. Grazie alla particolare geometria di taglio, i FAST TAPS producono filetti molto precisi anche ad alta velocità. Raccomandiamo l'uso dei FAST TAPS su macchine sincronizzate, con maschiatura rigida e su acciai $\leq 800 \text{ N/mm}^2$.

🇩🇪 Mit dem Einsatz der FAST TAPS reduziert man die Gewindekosten durch eine 3-mal-höheren Geschwindigkeit als die standard Werte. Die FAST TAPS werden mit dem besten HSSE hergestellt, um den Schneiddruck zu vermindern und die Bruchfestigkeit zu steigern. Die TiN Beschichtung reduziert die Aufbauschneidenbildung. Durch ihre spezielle Form, erzeugen die FAST TAPS genaue Gewinde auch bei hohen Geschwindigkeiten. Es wird empfohlen, die FAST TAPS auf Maschinen mit automatischer Schnitteinteilung zu benutzen. Stahl $\leq 800 \text{ N/mm}^2$.

🇫🇷 Avec les tarauds FAST TAPS on réduit les coûts de taraudage, grâce à la considérable augmentation de la vitesse de rotation jusqu'à 3 fois les valeurs standard. Les FAST TAPS sont fabriqués avec les meilleurs HSSE, spécifiques pour réduire les frottements, augmenter la durée de vie et la ténacité de l'outil. Le revêtement TIN réduit sensiblement le collage sur l'arête de coupe. Grâce à la particulière géométrie de coupe, les FAST TAPS produisent des filets très précis même à grande vitesse. On recommande l'emploi des FAST TAPS sur des machines à broches synchro, avec taraudage rigide et dans des aciers $\leq 800 \text{ N/mm}^2$.



M

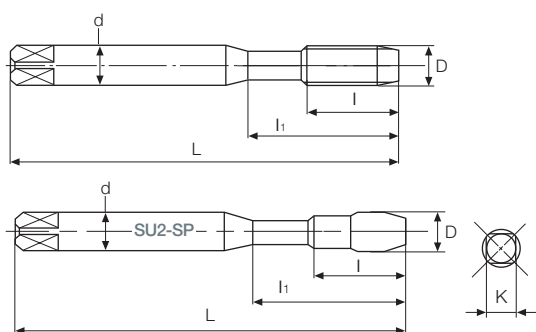
DIN371



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	10~20	15~25
6	5~15	
9~12	5~20	10~20
15~20	10~20	15~30
22~24	3~10	



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE



										4 5 6 9-12 22 24	15-20	15 16 18-20	3-5 9-12	1-5 9 10
										48° HSS-P OX ISO2X (6HX) 3P	45° HSSE NI ISO2X (6HX) 2P-3P C	45° HSSE TiCN ISO2X (6HX) 2P-3P C	BLF45° HSSE OX ISO2 (6H) 2P-3P C	45° HSSE OX ISO2 (6H) 2P-3P C
D	p	Ø	L	l	*	l1	d	k		Stock	Stock	Stock	Stock	Stock
M 2	0.4	1.6	45	4		9	2.8	2.1			●	○		●
2.5	0.45	2.1	50	4		12.5	2.8	2.1			●	○		●
3	0.5	2.5	56	5	11	18	3.5	2.7	●	●	●	●	●	●
4	0.7	3.3	63	7	13	21	4.5	3.4	●	●	●	●	●	●
5	0.8	4.2	70	9	16	25	6	4.9	●	●	●	●	●	●
6	1	5	80	11	19	30	6	4.9	●	●	●	●	●	●
8	1.25	6.8	90	12	22	35	8	6.2	●	●	●	●	●	●
10	1.5	8.5	100	13	24	39	10	8	●	●	●	●	●	●

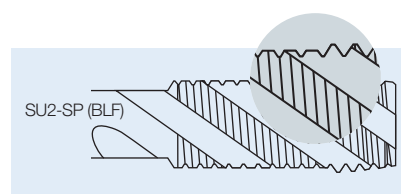
*l-9644.. / 9643..

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 2 ~ 2.5
3
3.5 ~ 10

2 2 2 2 2
3 3 3 3 3
3 3 3 3 3



NEW

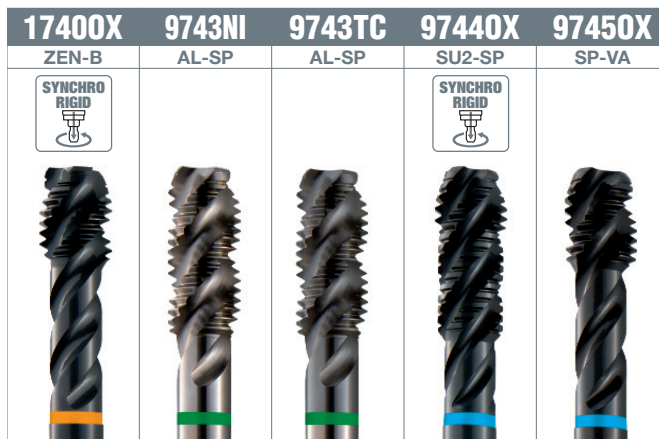
9645EOX	9645TC	9645OX6G	9646OX	9648OX		
SP-VA-E	SP-VA	OS-SP-VA	SP-NW	PH-SP		
		 oversized / übermaß / surcoté		 ~HRC37		
						
1-5 9 10	1-5 9 10	1-5 9 10	1 17	4 5 6		
45°	45°	45°	45°	40°		
HSSE	HSSE	HSSE	HSSE	HSSE		
OX	TiCN	OX	OX	OX		
ISO2 (6H)	ISO2 (6H)	ISO3 (6G)	ISO2 (6H)	ISO2 (6H)		
E	2P-3P C	2P-3P C	2P-3P C	3P		
Stock	Stock	Stock	Stock	Stock	D	p
					M 2	0.4
					2.5	0.45
○	●	○	EX	●	3	0.5
○	●	●	EX	●	4	0.7
○	●	●	EX	●	5	0.8
○	●	●	EX	●	6	1
○	●	●	EX	●	8	1.25
○	●	●	EX	●	10	1.5
● stock standard ○ non-standard stock △ on request EX stock exhaustion						
2	2	2	3	3	M 2 ~ 2.5	
3	3	3	3	3	3	
					3.5 ~ 10	

M

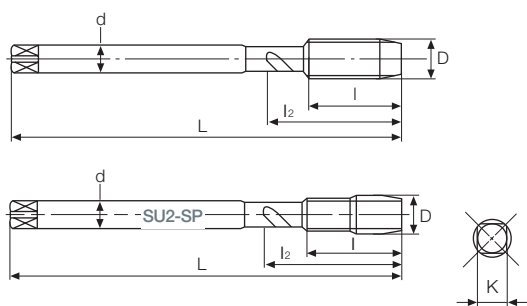
DIN376



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	10~20	15~25
6	5~15	
9~12	5~20	10~20
15~20	10~20	15~30
22~24	3~10	



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE



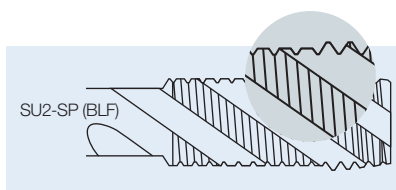
D	p	Ø	L	l	*	l2	d	k	48°	45°	45°	BLF45°	45°
M 8	1.25	6.8	90	12		28	6	4.9	HSS-P	HSSE	HSSE	HSSE	HSSE
10	1.5	8.5	100	13		35	7	5.5	OX	NI	TiCN	OX	OX
12	1.75	10.3	110	15	29	42	9	7	IS02X (6HX)	IS02X (6HX)	IS02X (6HX)	IS02 (6H)	IS02 (6H)
14	2	12	110	18	30	49	11	9	3P	2P-3P C	2P-3P C	2P-3P C	2P-3P C
16	2	14	110	18	32	56	12	9					
18	2.5	15.5	125	20	34	63	14	11					
20	2.5	17.5	140	20	34	70	16	12					
22	2.5	19.5	140	20	34	77	18	14.5				EX	
24	3	21	160	25	38	84	18	14.5					
27	3	24	160	25		95	20	16					
30	3.5	26.5	180	30		105	22	18					
36	4	32	200	40		126	28	22					NEW

*1-9744.. / 9743..

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 8 ~ 10					3
12 ~ 16	3	3	3	4	3
18 ~ 20	4			4	4
22 ~ 36	4			4	4



NEW

9745EOX	9745TC	97450X6G	97460X	97480X			
SP-VA-E	SP-VA	OS-SP-VA	SP-NW	PH-SP			
							
		oversized / maggiorato / übermaß / surcote		SYNCHRO RIGID ~HRC37			
1-5 9 10	1-5 9 10	1-5 9 10	1 17	4 5 6			
							
HSSE OX	HSSE TiCN	HSSE OX	HSSE OX	HSSE OX			
ISO2 (6H)	ISO2 (6H)	ISO3 (6G)	ISO2 (6H)	ISO2 (6H)			
							
Stock	Stock	Stock	Stock	Stock			
					D	p	
					M 8	1.25	
					10	1.5	
○	●	○	EX	●	12	1.75	
○	○		EX	●	14	2	
○	●		EX	●	16	2	
				●	18	2.5	
○	●		EX	●	20	2.5	
			EX	○	22	2.5	
					24	3	
				●	27	3	
				●	30	3.5	
				●	36	4	

● stock standard ○ non-standard stock △ on request EX stock exhaustion

					M 8	~ 10
3	3	3	3	4	12	~ 16
4	4		4	4	18	~ 20
			4	5	22	~ 36

M

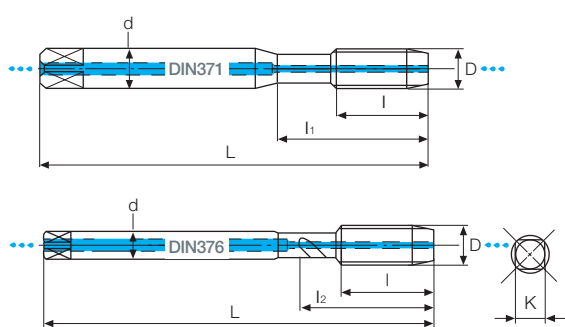
DIN371
DIN376

MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	10~20	15~30
9 - 10		8~15
13 - 14	10~20	15~30
15~20	10~20	15~30

96400H 9640TC0H

SP-OH

SP-OH

MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE1~5 13
14 15~201~5 9 10 13
14 15 16 18~20

HSSE

HSSE

BR

TiCN

ISO2
(6H)ISO2
(6H)

D	p	Ø	L	l	l1	d	k	Stock	Stock	
• DIN371										
M 6	1	5	80	11	30	6	4.9	○	○	
8	1.25	6.8	90	12	35	8	6.2	○	○	
10	1.5	8.5	100	13	39	10	8	○	○	
D	p	Ø	L	l	l2	d	k	Stock	Stock	
• DIN376									97400H	9740TCOH
12	1.75	10.3	110	15	42	9	7	○	○	
14	2	12	110	18	49	11	9	○	○	
16	2	14	110	18	56	12	9	○	○	
20	2.5	17.5	140	20	70	16	12	○	○	

● stock standard ○ non-standard stock △ on request EX stock exhaustion

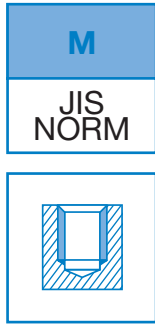
M 6 ~ 16
20

3

3

4

4



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TIN-TICN PV15
1~5	5~15	
13~14	8~15	
15~20	10~20	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								
40° HSSE BR P CLASS 2,5 P 1~5 13 14 15~20								
D	p	Ø	L	l	l1	d	k	Stock
M 3	0.5	2.5	100	11	18	4	3.2	● (P1)
4	0.7	3.3	100	13	21	5	4	● (P2)
5	0.8	4.2	100	16	25	5.5	4.5	● (P2)
6	1	5	100	19	30	6	4.5	● (P2)
8	1.25	6.8	100	22		6.2	5	● (P2)
3	0.5	2.5	150	11	18	4	3.2	○ (P1)
4	0.7	3.3	150	13	21	5	4	● (P2)
5	0.8	4.2	150	16	25	5.5	4.5	● (P2)
6	1	5	150	19	30	6	4.5	● (P2)
8	1.25	6.8	150	22		6.2	5	● (P2)
10	1.5	8.5	150	24		7	5.5	● (P2)
12	1.75	10.3	150	29		8.5	6.5	● (P2)
14	2	12	150	30		10.5	8	○ (P2)
16	2	14	150	32		12.5	10	● (P2)
18	2.5	15.5	150	37		14	11	○ (P3)
20	2.5	17.5	150	37		15	12	● (P3)
10	1.5	8.5	200	24		7	5.5	● (P2)
12	1.75	10.3	200	29		8.5	6.5	● (P2)
14	2	12	200	30		10.5	8	○ (P2)
16	2	14	200	32		12.5	10	● (P2)
18	2.5	15.5	200	37		14	11	○ (P3)
20	2.5	17.5	200	37		15	12	● (P3)
24	3	21	200	45		19	15	● (P3)

P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



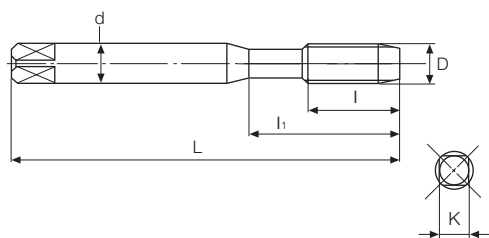
M 3 ~ 16	3
18 ~ 24	4

M

DIN371



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~20	10~30
6~7	5~10	8~15
13~14	10~15	15~25
15~20	10~20	15~30
21~23~25~26	5~10	


MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE


										4 5 6 7 13 14 18-20 21 23 25 26	4 5 6 7 13 14 23 25	1-5 13 14 15-20	1-5	1-5 13 14 15 16 18-20
										15° HSS-P NI ISO2X (6HX) 3P	15° HSS-P TiCN ISO2X (6HX) 3P	20° HSS BR ISO2 (6H) 3.5P-5P D	20° HSSE OX ISO2 (6H) 3.5P-5P D	20° HSSE TiCN ISO2 (6H) 3.5P-5P D
D	p	Ø	L	l	*	l1	d	k		Stock	Stock	Stock	Stock	Stock
M 2	0.4	1.6	45	8			2.8	2.1					○	
2.5	0.45	2.1	50	9			2.8	2.1					○	
3	0.5	2.5	56	11	5	18	3.5	2.7	●	○	●	●	○	○
4	0.7	3.3	63	13	7	21	4.5	3.4	●	○	●	●	○	○
5	0.8	4.2	70	16	9	25	6	4.9	●	○	●	●	○	○
6	1	5	80	19	11	30	6	4.9	●	●	●	●	○	○
8	1.25	6.8	90	22	12	35	8	6.2	●	●	●	●	○	○
10	1.5	8.5	100	24	13	39	10	8	●	●	●	●	○	○

*1-1641..

● stock standard ○ non-standard stock △ on request EX stock exhaustion

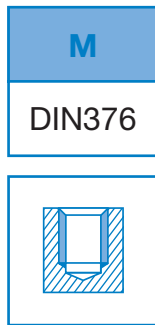

M 2 ~ 2.6
3
4 ~ 10

3 3 2 2 2
2 2 2 2 2
3 3 3 3 3

9641TI		96410X6G	
LOSP	OS-LOSP		
	oversized / maggiorato / surcoté 		
1-5 13 14 15 16 18-20	1-5		
20° HSSE TiN ISO2 (6H) 3.5P-5P D	20° HSSE OX ISO3 (6G) 3.5P-5P D		
Stock	Stock		
		D	p
		M 2	0.4
		2.5	0.45
○	EX	3	0.5
○	EX	4	0.7
○	EX	5	0.8
○	EX	6	1
○		8	1.25
○		10	1.5

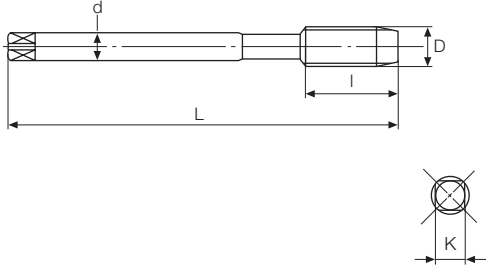
● stock standard ○ non-standard stock △ on request EX stock exhaustion

2		M 2 ~ 2.6
2	2	3
3	3	4 ~ 10



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~20	10~30
6~7	5~10	8~15
13~14	10~15	15~25
15~20	10~20	15~30
21~23-25-26	5~10	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								4 5 6 7 13 14 18-20 21 23 25 26		4 5 6 7 13 14 23 25		1-5 13 14 15-20		1-5	1-5 13 14 15 16 18-20	
								 HSS-P NI ISO2X (6HX) 3 P	 HSS-P TiCN ISO2X (6HX) 3 P	 HSSE BR ISO2 (6H) 3.5P-5P D	 HSSE OX ISO2 (6H) 3.5P-5P D	 HSSE TiCN ISO2 (6H) 3.5P-5P D				
D	p		L	l	*	d	k	Stock	Stock	Stock	Stock	Stock				
M 3	0.5	2.5	56	11		2.2						○				
4	0.7	3.3	63	13		2.8	2.1					○				
5	0.8	4.2	70	16		3.5	2.7					○				
6	1	5	80	19		4.5	3.4					○				
8	1.25	6.8	90	22		6	4.9					○				
10	1.5	8.5	100	24		7	5.5					○				
12	1.75	10.3	110	29	15	9	7	●	●	●	●	○				
14	2	12	110	30	18	11	9	●	○	○	●	○				
16	2	14	110	32	18	12	9	●	○	●	●	○				
18	2.5	15.5	125	34	20	14	11	○	○		○					
20	2.5	17.5	140	34	20	16	12	●	○	○	●	○				
22	2.5	19.5	140	34	20	18	14.5				○					
24	3	21	160	38	25	18	14.5	●	○		●					
27	3	24	160	38		20	16				○					
30	3.5	26.5	180	45		22	18				○					

M 3 ~ M24 LO SP = 20°

M27 ~ LO SP = 15°

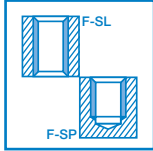
*I-1741..

● stock standard ○ non-standard stock △ on request EX stock exhaustion

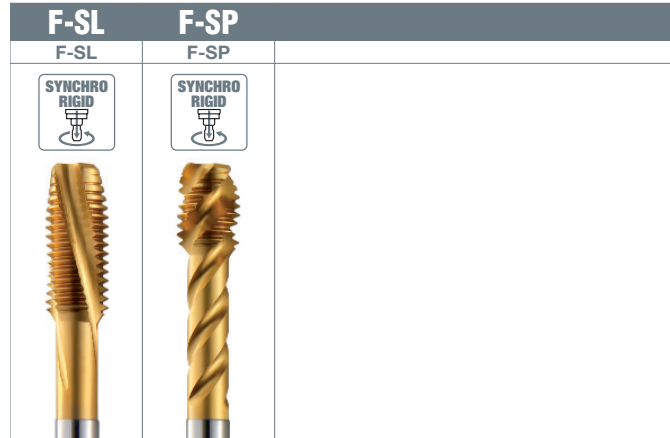


M 3	2
4 ~ 16	3
18 ~ 30	4

9741TI 97410X6G				
LOSP	OS-LOSP			
	 oversized / maggiorato / surcoté			
1-5 13 14 15 16 18-20	1-5			
 HSSE TIN ISO2 (6H) 3.5P-5P D	 HSSE OX ISO3 (6G) 3.5P-5P D			
Stock	Stock			
			D	p
			M 3	0.5
			4	0.7
			5	0.8
			6	1
			8	1.25
			10	1.5
○			12	1.75
○	EX		14	2
○			16	2
			18	2.5
○			20	2.5
			22	2.5
			24	3
			27	3
			30	3.5
● stock standard ○ non-standard stock △ on request EX stock exhaustion				
3	3	M 3		
4	4	4 ~ 16		
		18 ~ 30		



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN
1~5		20~40
6		15~25
9 - 10 - 11		15~25
13 - 14		15~30
15~20		20~50



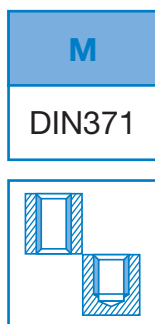
MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE										1~5 6 9~11 13 14 15~20		1~5 6 9~11 13 14 15~20	
M3 ~ M6 M8 ~										L15°		45°	
										HSSE TiN		HSSE TiN	
										P CLASS		P CLASS	
										5 P		2,5 P	
D	p	Ø	L	l	*	l1	d	k		Stock		Stock	
M 3	0.5	2.5	46	11	5	18	4	3.2	● (P2)		● (P2)		
4	0.7	3.3	52	13	7	21	5	4	● (P2)		● (P2)		
5	0.8	4.2	60	16	9	25	5.5	4.5	● (P2)		● (P2)		
6	1	5.0	62	19	11	30	6	4.5	● (P2)		● (P2)		
8	1.25	6.8	70	22	12		6.2	5	● (P3)		● (P3)		
10	1.5	8.5	75	24	13		7	5.5	● (P3)		● (P3)		
12	1.75	10.3	82	29	15		8.5	6.5	● (P4)		● (P4)		
MF10	1.25	8.8	75	32	12		7	5.5	○ (P3)		○ (P3)		
12	1.5	10.5	82	32	14		8.5	6.5	○ (P3)		○ (P3)		
12	1.25	10.8	82	32	14		8.5	6.5	○ (P4)		○ (P4)		

P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 12 3 3



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~10	
6~7	3~8	
13~14	10~20	15~30
16~19~20	10~20	15~30
21	3~5	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								5 6 7		1~5 13 14 16 19 20		13 14 16 19 20 21		13 14 16 19 20	
								STR	STR	STR	STR	STR	STR	STR	STR
								HSS/Co	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE	HSSE
								BR	BR	BR	BR	BR	BR	BR	BR
								IS02X (6HX)	IS02 (6H)	IS02X (6HX)	IS02X (6HX)	IS02X (6HX)	IS02X (6HX)	IS02X (6HX)	IS02X (6HX)
								2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C
D	p	Ø	L	l	l1	d	k	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock
M 3	0.5	2.5	56	11	18	3.5	2.7	●	○	●	○	●	○	●	○
4	0.7	3.3	63	13	21	4.5	3.4	●	○	●	○	●	○	●	○
5	0.8	4.2	70	16	25	6	4.9	●	○	●	○	●	○	●	○
6	1	5	80	19	30	6	4.9	●	○	●	○	●	○	●	○
8	1.25	6.8	90	22	35	8	6.2	●	○	●	○	●	○	●	○
10	1.5	8.5	100	24	39	10	8	●	○	●	○	●	○	●	○

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3	3	3	3	3
4 ~ 6	3	3	4	4
8 ~ 10	4	3	4	4

UH-CT CARBIDE (~HRC63)

🇬🇧 UH-CT made of tungsten carbide; UH-CT TiAlN coated to further increase the taps wear resistance; UH-CT reinforced shank with no recess to increase rigidity; UH-CT special flute design for higher rigidity, consistent cutting performance and good chips generation; UH-CT for threading Alloy steels, Die Steels & Tool Steels with hardness from HRC50 to HRC60. (Max HRC63); UH-CT thread length should be 1.5D or shorter; UH-CT 5 pitches chamfer for longer tool life and consistent cutting performance; UH-CT larger point diameter than conventional taps to increase the effectiveness of the taps chamfer. NOTICE ON USAGE

UH-CT must be used by machine; machines with feedrate/rotation synchronized tapping mechanism are recommended; the maximum rigidity of tap and workpiece holder is recommended; drilled hole must be as large as possible.

🇮🇹 Metallo duro; rivestiti TiAlN per migliorarne la resistenza all'usura; gambo rinforzato senza collare per una maggiore stabilità e rigidità; geometria speciale per migliorarne la durata, l'efficienza di taglio e la forma del truciolo; adatti alla filettatura di acciai temprati HRC50~HRC60 (max.HRC63); adatti alla filettatura di fori ciechi o passanti max. 1,5D; imbocco 5P; diametro punta molto largo per migliorarne l'efficienza dell'imbocco.

CONSIGLI PER UN CORRETTO UTILIZZO

UH-CT deve essere utilizzato a macchina; consigliamo l'impiego di UH-CT su macchine sincronizzate; raccomandiamo condizioni di massima rigidità sia nello staffaggio del pezzo che per il mandrino porta maschio; consigliamo che il preforo sia il più largo possibile.

🇩🇪 UH-CT Hartmetall; UH-CT TiAlN Beschichtung für bessere Verschleißfestigkeit; UH-CT mit verstärktem Schaft für bessere Stabilität und Starrheit; UH-CT Sonderschneidegeometrie für längere Standzeit, bessere Schneidleistung und Spanform; UH-CT für Gewinde auf gehärteten Stahl HRC50-HRC60 (max. HRC63) geeignet; UH-CT für Grundloch- und Durchgangsgewinde max. 1,5D; UH-CT Anschnitt 5P; UH-CT durch den breiten Spitzedurchmesser schneidet den Anschnitt gewiß mit dem ersten Gewinde.

GEBRAUCHSANWEISUNGEN

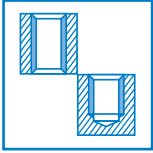
UH-CT ist für das Maschinengewindebohren geeignet; die Anwendung von UH-CT auf synchronisierte Maschinen ist empfohlen; starre Spindel und Werkstückbefestigung sind empfohlen; das größtmögliche Kernloch ist empfohlen.

🇫🇷 UH-CT en carbure monobloc; UH-CT revêtus TiAlN pour en améliorer la résistance à l'usure; UH-CT avec queue renforcée pour en garantir plus de stabilité et rigidité; UH-CT avec une géométrie spéciale pour en améliorer la dureté, le rendement du coupe et la forme du copeau; UH-CT pour le taraudage d'aciers trempés HRC50~HRC60 (max HRC63); UH-CT pour le taraudage de trous borgnes ou débouchants max. 1,5D; UH-CT avec entrée 5P; UH-CT avec un très large diamètre de la pointe pour que l'entrée puisse couper déjà à partir du premier filet.

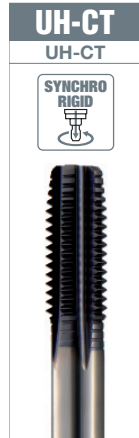
MODE D'EMPLOI

UH-CT doit être utilisé en machine; nous conseillons l'emploi de UH-CT sur des machines synchronisées; nous recommandons des conditions de rigidité maximum aussi bien dans le blocage de la pièce que pour le mandrin porte-taraud; nous conseillons un diamètre de perçage le plus large possible.



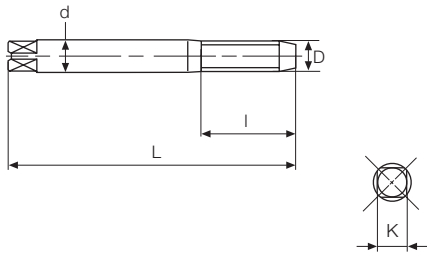


MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiAIN
8 < 55HRC		2~6
8 > 55HRC		1~4



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFGRUPPE / GROUPES MATIÈRE

8



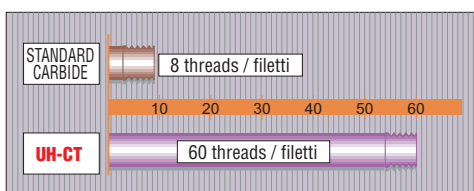
D	p	Ø	L	l	d	k	Stock
M 2	0.4	1.6	40	8	4	3,2	○ (P3)
2.5	0.45	2.1	44	9,5	4	3,2	○ (P3)
2.6	0.45	2.2	44	9,5	4	3,2	○ (P3)
3	0.5	2.5	46	11	5	4	● (P3)
4	0.7	3.4	52	13	5,5	4,5	● (P3)
5	0.8	4.3	60	16	6	4,5	● (P3)
6	1	5.1	62	19	6,2	5	● (P3)
8	1.25	6.9	70	22	7	5,5	● (P4)
10	1.5	8.6	75	24	8,5	6,5	● (P4)
12	1.75	10.4	82	30	10,5	8	● (P4)
14	2	12.2	88	30	12,5	10	○ (P4)
16	2	14.2	95	30	14	11	● (P4)
18	2.5	15.7	100	35	15	12	○ (P4)
20	2.5	17.7	105	35	17	13	● (P4)

P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion

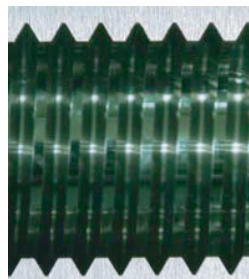


M 2	3
2.5 ~ 4	4
6 ~ 12	5
14 ~ 20	6

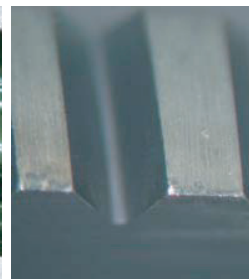


UH-CT M8x1,25 PERFORMANCE

- Machine: CNC synchro rigid
- Material: 60 HRC hardened steel
- Hole Ø: 6,9mm
- Thread length: 16mm through
- Vc: 1,5m/min
- Lubricant: oil



cross sectional shape of
internal thread



wear after 60 threads



chips

CT-FC CARBIDE

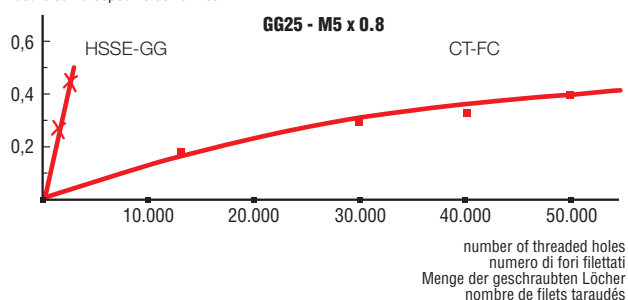
 The Yamawa CT taps are made of ultra-fine micrograin tungsten carbide; the Yamawa CT taps show excellent wear resistance and high toughness, so they are recommended for mass-production threading; the Yamawa CT taps have special geometry and rake angle designed to obtain high quality threads. The Yamawa CT taps if used under proper tapping conditions, assure long life and high cutting speed.

 I maschi Yamawa CT sono prodotti utilizzando metallo duro micrograna ultrafine. Garantiscono eccezionale resistenza all'usura e sorprendente tenacità e sono consigliati per super produzione. Sono disegnati con geometrie di taglio specifiche per ottenere filettature di altissima qualità. I maschi Yamawa CT, se utilizzati in condizioni ottimali, garantiscono lunga durata e alta velocità d'impiego.

 Die Yamawa CT Gewindebohrer sind aus ultra-feiner Mirkörkornung Hartmetall gefertigt; die Yamawa CT Gewindebohrer zeichnen sich durch Zähigkeit aus, zeigen sehr gute Verschleißfestigkeit und sind daher sehr empfehlenswert für die Gewinde-Massenproduktion; durch speziell entwickelte Geometrien und Spanwinkel, erreichen die Yamawa CT Gewindebohrer sehr hohe Gewindequalität; unter optimalen Konditionen, ermöglichen die Yamawa CT Gewindebohrer lange Lebensdauer und hohe Schnittgeschwindigkeit.

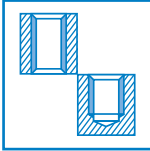
 Les tarauds Yamawa CT sont réalisés en carbure à grain ultrafin; les tarauds Yamawa CT font preuve d'une excellente ténacité et résistance à l'usure et sont donc recommandés pour les travaux en grande série; les tarauds Yamawa CT ont un affûtage et une géométrie spécialement étudiés pour l'obtention de filets de la plus haute qualité; les tarauds Yamawa CT, utilisés dans des conditions optimales, garantissent une excellente durée de vie à vitesse de coupe élevée.

wear of chamfer relief
usura sulla spoglia dell'imbocco
Spanverschleiß
usure sur la dépouille de l'entrée

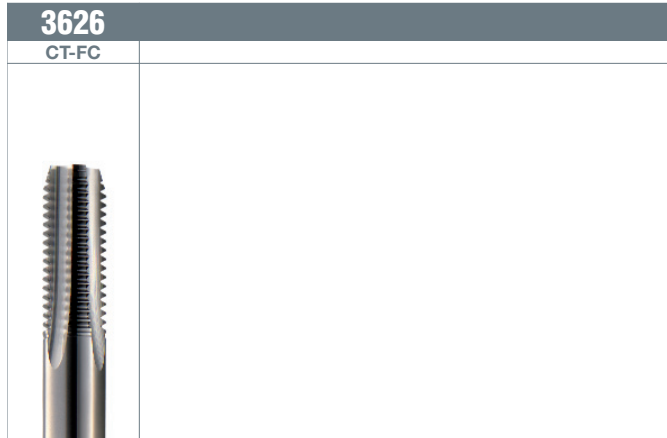


M, MF, G

DIN371
DIN376
DIN5156



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TIN-TICN PV15
13 - 14	15~30	
18~20	20~40	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								13 14 18-20	
								STR CARBIDE BR ISO2X (6HX) 2P~3P C	
D	p	Ø	L	l	d	k	Stock		
• DIN371									
M 3	0.5	2.5	56	11	3.5	2.7	○		
4	0.7	3.3	63	13	4.5	3.4	○		
5	0.8	4.2	70	16	6	4.9	○		
6	1	5	80	19	6	4.9	○		
8	1.25	6.8	90	22	8	6.2	○		
10	1.5	8.5	100	24	10	8	○		
• DIN376								3726	
12	1.75	10.3	110	29	9	7	○		
14	2	12	110	30	11	9	○		
16	2	14	110	32	12	9	○		
• DIN5156								3926	
G 1/8x28	9.728	8.75	90	20	7	5.5	△		
1/4x19	13.157	11.8	100	22	11	9	△		
3/8x19	16.662	15.25	100	22	12	9	○		
1/2x14	20.955	19	125	25	16	12	△		

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3	3
4 ~16	4
G 1/8 ~ 1/2	4

CARBIDE TIPPED
METALLO DURO SALDO BRASATO
HARTMETALL BESTÜCKT
CARBURE SOUDO-BRASÉ

M ≥ 12
G ≥ 1/4

DRY

 Due to the high cost needed for the purchase and disposal of lubricant, and consequently to the observance of the norm ISO14000 on “environmental management”, the request for dry working tools or tools needing minimum quantities of lubricant is becoming more and more urgent. Yamawa is introducing in the world market the new series of HD high performance taps, ensuring exceptional performances even under extremely severe working conditions, like dry threading, MQL (minimum quantity lubricant), or nebulization (mix of air and oil).

 A causa del costo per l'acquisto e smaltimento dei lubrificanti ed in conseguenza del rispetto delle norme ISO14000, riguardante la gestione ambientale, la richiesta di utensili capaci di lavorare a secco o con quantità minime di lubrificante sta diventando sempre più pressante. Yamawa introduce nel mercato mondiale la nuova serie di maschi ad alto rendimento HD capaci di performance eccezionali anche in condizioni di lavoro estremamente gravose quali filettatura a secco, MQL (minima quantità di lubrificante) o nebulizzazione (misto aria + olio).

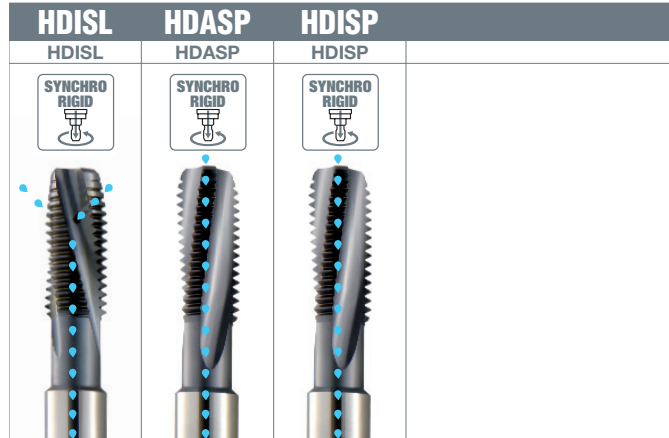
 Aufgrund der hohen Kosten für den Einkauf und Entsorgung der Schmiermittel, und infolge der Beachtung der ISO14000-Normen, die das Umweltmanagement betreffen, ist die Anfrage nach Werkzeugen, die trocken arbeiten oder wenig Schmiermittel benötigen, immer mehr dringend. Yamawa führt auf dem Weltmarkt den neuen Satz von den HD Hoch-Leistung-Gewindebohrern ein, die aussergewöhnliche Leistungen auch unter schweren Arbeitsbedingungen, wie z.B. trockenem Gewindeschneiden, MQL (mindeste Schmiermittel-Menge) oder Zerstäubung (Mischung von Luft und Öl) zufriedenstellen.

 À cause des coûts élevés pour l'achat et l'écoulement du lubrifiant, et par conséquent du respect des normes ISO 14000 qui concernent les systèmes de management de l'environnement, la demande d'outils pour l'orsinage en sec ou avec des petites quantités de lubrifiant devient de plus en plus pressante. Yamawa introduit dans le marché mondial la nouvelle série de tarauds à haut performance HD, qui garantissent des résultats exceptionnels aussi dans les conditions d'utilisation les plus difficiles, comme par exemple filetage en sec, MQL (quantité minimale de lubrifiant) ou nébulisation (mélange d'air et huile).



M, MF
YAMAWA
NORM

MATERIAL GROUP	Vc (m/min)	
	DRY / SECCO TROCKEN - SEC	MQL
1~5	7~10	15~35
9 - 10		10~20
13 -14	7~15	20~40
15~20	15~20	20~45



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								1-5 9 10 13 14 15-20	15-20	1-5 9 10 13 14
D	p	Ø	L	l	l1	d	d	Stock	Stock	Stock
M 6	1	5.0	62	19	27	-	6	● (P4)	○ (P4)	○ (P4)
8	1.25	6.8	70	22		36	8	● (P4)	○ (P4)	○ (P4)
10	1.5	8.5	75	24		37	10	● (P4)	○ (P4)	○ (P4)
12	1.75	10.3	82	29		40	12	● (P4)	○ (P4)	○ (P4)
14	2	12	88	30		40	12	● (P4)		
16	2	14	95	32		40	12	● (P4)		
20	2.5	17.5	105	37		45	16	○ (P4)		
MF10	1.25	8.8	75	24		37	10	● (P4)	○ (P4)	○ (P4)
12	1.5	10.5	82	29		40	12	● (P4)	○ (P4)	○ (P4)
12	1.25	10.8	82	29		40	12	● (P4)	○ (P4)	○ (P4)
14	1.5	12.5	88	30		40	12	● (P4)	○ (P4)	○ (P4)
16	1.5	14.5	95	32		43	16	● (P4)	○ (P4)	○ (P4)
18	1.5	16.5	100	37		45	16	○ (P4)	○ (P4)	○ (P4)
20	1.5	18.5	105	37		45	16	○ (P5)	○ (P5)	○ (P5)

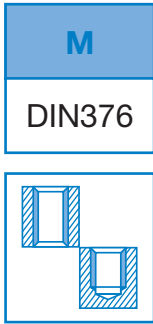
P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 6 ~ 16
18 ~ 20

3 3 3
4 3 4



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~10	
6~7	3~8	
13~14	10~20	15~30
16~19~20	10~20	15~30
21	3~5	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								5 6 7	1~5 13 14 16 19 20	13 14 16 19 20 21	13 14 16 19 20
								STR	STR	STR	STR
								HSS/Co	HSSE	HSSE	HSSE
								BR	BR	NI	TiCN
								ISO2X (6HX)	ISO2 (6H)	ISO2X (6HX)	ISO2X (6HX)
								2P~3P C	2P~3P C	2P~3P C	2P~3P C
D	p	Ø	L	I	d	k		Stock	Stock	Stock	Stock
M 5	0.8	4.2	70	16	3.5	2.7				○	○
6	1	5	80	19	4.5	3.4				○	○
8	1.25	6.8	90	22	6	4.9				●	●
10	1.5	8.5	100	24	7	5.5				●	●
12	1.75	10.3	110	29	9	7	●		○	●	●
14	2	12	110	30	11	9	●		○	●	●
16	2	14	110	32	12	9	●		○	●	●
18	2.5	15.5	125	34	14	11	○		○	●	●
20	2.5	17.5	140	34	16	12	●		○	●	●
22	2.5	19.5	140	34	18	14.5	○		○	●	●
24	3	21	160	38	18	14.5	●		○	●	●
27	3	24	160	38	20	16			○		
30	3.5	26.5	180	45	22	18			○		
33	3.5	29.5	180	50	25	20			○		
36	4	32	200	56	28	22			○		
39	4	35	200	60	32	24			○		
42	4.5	37.5	200	60	32	24			○		

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 5			4	4
6 ~ 24	4	3	4	4
27 ~ 42		4		

M

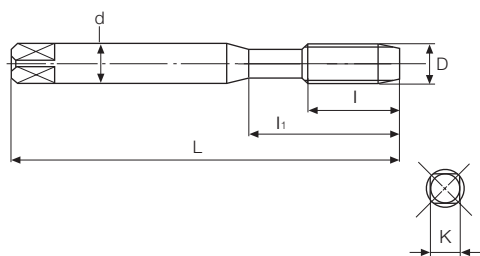
DIN371



MATERIAL GROUP	Vc (m/min)	
	BR-0X-NX-NI	TiN-TiCN PV15
3 - 4 - 5	10~20	15~30
6 - 7	5~10	8~15
9~12	5~15	10~20
13 - 14	8~15	12~30
15~20	10~20	15~30
21-23-25-26	5~10	
22 - 24	3~10	



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE



								3 4 6 7 9-12 22 23 24 25	4 5 6 7 13 14 18-20 21 23 25 26	4 5 6 7 13 14 23 25	5 6 7	15-20
								P0 HSS-P NX ISO2X (6HX) 3.5P-5P B	L15° HSS-P NI ISO2X (6HX) 3.5P-5P D	L15° HSS-P TiCN ISO2X (6HX) 3.5P-5P D	P0 HSS/Co BR ISO2X (6HX) 3.5P-5P B	STR HSSE NI ISO2X (6HX) 3.5P-5P D
D	p	Ø	L	l	l1	d	k	Stock	Stock	Stock	Stock	Stock
M 2	0.4	1.6	45	8		2.8	2.1					
2.5	0.45	2.1	50	9		2.8	2.1					
3	0.5	2.5	56	11	18	3.5	2.7	●	●	○	●	●
4	0.7	3.3	63	13	21	4.5	3.4	●	●	○	●	●
5	0.8	4.2	70	16	25	6	4.9	●	●	○	●	●
6	1	5	80	19	30	6	4.9	●	●	○	●	●
8	1.25	6.8	90	22	35	8	6.2	●	●	○	●	●
10	1.5	8.5	100	24	39	10	8	●	●	○	●	●

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 2 ~ 2.5
3 ~ 6
8 ~ 10

3 3 3 3 3
3 3 3 3 4

9623TC			96350X			9635TC		
LA-O			PO-VA			PO-VA		
								
15 16 18-20			1-5 9-11			1-5 9-11		
								
HSSE			HSSE			HSSE		
TiCN			OX			TiCN		
ISO2X (6HX)			ISO2X (6HX)			ISO2X (6HX)		
3.5P-5P D			3.5P-5P B			3.5P-5P B		
Stock			Stock			Stock		
			●					
			●					
○			●			●		
○			●			●		
○			●			●		
○			●			●		
○			●			●		
○			●			●		
○			●			●		

M

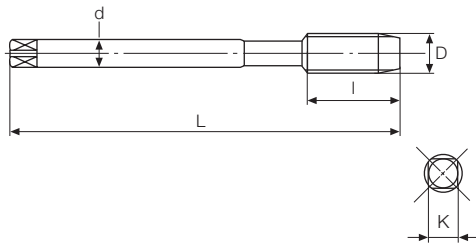
DIN376

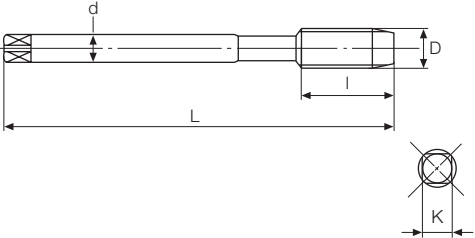


MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
3 - 4 - 5	10~20	15~30
6 - 7	5~10	8~15
9~12	5~15	10~20
13 - 14	8~15	12~30
15~20	10~20	15~30
21-23-25-26	5~10	
22 - 24	3~10	



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE							3 4 6 7 9-12 22 23 24 25	4 5 6 7 13 14 18-20 21 23 25 26	4 5 6 7 13 14 23 25	5 6 7	15-20
							 HSS-P NX ISO2X (6HX) 3.5P-5P B	 HSS-P NI ISO2X (6HX) 3.5P-5P D	 HSS-P TiCN ISO2X (6HX) 3.5P-5P D	 HSS/Co BR ISO2X (6HX) 3.5P-5P B	 HSSE NI ISO2X (6HX) 3.5P-5P D
D	p	Ø	L	l	d	k	Stock	Stock	Stock	Stock	Stock
M 8	1.25	6.8	90	22	6	4.9					
10	1.5	8.5	100	24	7	5.5					
12	1.75	10.3	110	29	9	7	●	●	○	●	●
14	2	12	110	30	11	9	○	○	○	●	○
16	2	14	110	32	12	9	●	○	○	●	○
18	2.5	15.5	125	34	14	11	○			●	
20	2.5	17.5	140	34	16	12	●			●	
22	2.5	19.5	140	34	18	14.5				○	
24	3	21	160	38	18	14.5	●			●	
27	3	24	160	38	20	16					
30	3.5	26.5	180	45	22	18					
36	4	32	200	56	28	24					

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 8 ~24
27 ~36

3

3

3

3

4

101

M

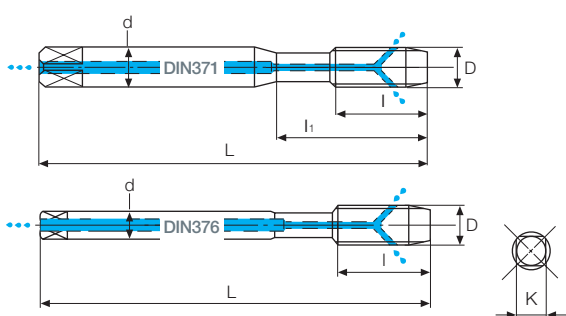
DIN371
DIN376

MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1 ~ 5	10~20	15~30
9 - 10		8~15
13 - 14	10~20	15~30
15~20	10~20	15~30

96300H 9630TCOH

PO-OH

PO-OH

MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE1-5 13
14 15-201-5 9 10 13
14 15 16 18-20

D	p	Ø	L	l	l1	d	k	Stock	Stock
• DIN371									
M 6	1	5	80	19	30	6	4.9	○	○
8	1.25	6.8	90	22	35	8	6.2	○	○
10	1.5	8.5	100	24	39	10	8	○	○
• DIN376									
12	1.75	10.3	110	29		9	7	○	○
14	2	12	110	30		11	9	○	○
16	2	14	110	32		12	9	○	○

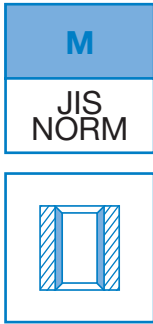
● stock standard ○ non-standard stock △ on request EX stock exhaustion



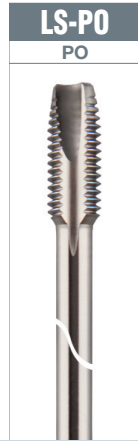
M 6 ~ 16

3

3



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~15	
13~14	8~15	
15~20	10~20	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									1-5 13 14 15-20	
D	p	Ø	L	l	l1	d	k	Stock		
M 3	0.5	2.5	100	11	18	4	3.2	● (P2)		
4	0.7	3.3	100	13	21	5	4	● (P2)		
5	0.8	4.2	100	16	25	5.5	4.5	● (P2)		
6	1	5	100	19	30	6	4.5	● (P2)		
8	1.25	6.8	100	22		6.2	5	● (P3)		
3	0.5	2.5	150	11	18	4	3.2	○ (P2)		
4	0.7	3.3	150	13	21	5	4	● (P2)		
5	0.8	4.2	150	16	25	5.5	4.5	● (P2)		
6	1	5	150	19	30	6	4.5	● (P2)		
8	1.25	6.8	150	22		6.2	5	● (P3)		
10	1.5	8.5	150	24		7	5.5	● (P3)		
12	1.75	10.3	150	29		8.5	6.5	● (P4)		
14	2	12	150	30		10.5	8	○ (P4)		
16	2	14	150	32		12.5	10	● (P4)		
18	2.5	15.5	150	37		14	11	○ (P4)		
20	2.5	17.5	150	37		15	12	○ (P4)		
10	1.5	8.5	200	24		7	5.5	○ (P3)		
12	1.75	10.3	200	29		8.5	6.5	○ (P4)		
14	2	12	200	30		10.5	8	○ (P4)		
16	2	14	200	32		12.5	10	● (P4)		
18	2.5	15.5	200	37		14	11	○ (P4)		
20	2.5	17.5	200	37		15	12	○ (P4)		
24	3	21	200	45		19	15	○ (P4)		

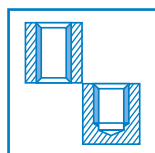
P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 24

3



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1 ~ 5	10~20	15~40
9 - 10 - 11	5~15	10~30
15~20	10~25	20~40



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								1~5 9~11 15~20		1~5 9~11 15~20		15~20	15~20	1 2 9 10
								OL-RZ		HP-RZ		N-RS	N-RS	N-RZ
								HSS-P TiCN		HSS-P TiCN		HSSE NI	HSSE TiN	HSSE OX
								ISO2X (6HX)		ISO2X (6HX)		ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)
								4P		2P		2P~3P C	2P~3P C	2P~3P C
D	p	Ø	L	l	l1	d	k	Stock	Stock	Stock	Stock	Stock	Stock	Stock
M 1	0.25	0.96	32	5.5		3	2.5	○*	○*					
1.2	0.25	1.15	32	5.5		3	2.5	○*	○*					
1.4	0.3	1.25	36	7		3	2.5	○*	○*					
1.6	0.35	1.45	36	8		3	2.5	○*	○*					
2	0.4	1.85	45	8		2.8	2.1		●			●		○
2.5	0.45	2.3	50	9		2.8	2.1		●			○		○
3	0.5	2.8	56	11	18	3.5	2.7	○	●			●		○
3.5	0.6	3.25	56	13	20	4	3							○
4	0.7	3.7	63	13	21	4.5	3.4	○	●			●		●
5	0.8	4.65	70	16	25	6	4.9	○	●			●		●
6	1	5.55	80	19	30	6	4.9	○	●			●		●
8	1.25	7.5	90	22	35	8	6.2		●			●		●
10	1.5	9.4	100	24	39	10	8		●			○		○

*1355TC M1 ~ M1.6 = OL-RZ JIS

1356TC M1 ~ M1.6 = HP-RZ JIS

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 1 ~ 2.5	0	0	0	0	0
3 ~ 6	0	2	1	1	4
8		3	1	1	3
10		4	1	1	4



M 1 ~ 1.6	3	3	3	3	3
2 ~ 6	4	4	4	4	4
8		6	6	6	6
10		8	6	6	8

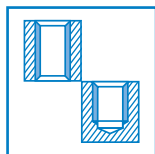
9352	9352TI	9353	9353TC	9353TI	9354	9354TI	
N-RS-L	N-RS-L	R-D	R-D	R-D	OS-R-D	OS-R-D	
							
15-20	15-20	1 2 15-20	1~4 15-20	1~4 15-20	oversized / maggiorato / surcoté 1 2 15-20	oversized / maggiorato / surcoté 1~4 15-20	
							
HSSE NI	HSSE TIN	HSSE BR	HSSE TiCN	HSSE TIN	HSSE BR	HSSE TIN	
ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)	ISO3X (6GX)	ISO3X (6GX)	
2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	
Stock	Stock	Stock	Stock	Stock	Stock	Stock	
							D
							M 1
							1.2
							1.4
							1.6
							2
							2.5
							3
							3.5
							4
							5
							6
							8
							10

● stock standard ○ non-standard stock △ on request EX stock exhaustion

0	0	0	0	0	0	0	M 1 ~ 2.5
0	0	4	4	4	4	4	3 ~ 6
0	0	3	3	3	3	3	8
0	0	4	4	4	4	4	10

3	3	3	3	3	3	3	M 1 ~ 1.6
4	4	4	4	4	4	4	2 ~ 6
6	6	6	6	6	6	6	8
6	6	8	8	8	8	8	10

M
DIN376

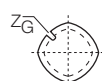


MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1 ~ 5	10~20	15~40
		10~20
9 - 10 - 11	5~15	10~30
15~20	10~25	20~40



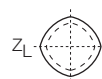
MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE												
								1-5 9-11 15-20	1-5 9-11 15-20	15-20	15-20	1 2 9 10
								OL-RZ	HP-RZ	N-RS	N-RS	N-RZ
								HSS-P TiCN	HSS-P TiCN	HSSE NI	HSSE TiN	HSSE OX
								ISO2X (6HX) 4P	ISO2X (6HX) 2P	ISO2X (6HX) C	ISO2X (6HX) C	ISO2X (6HX) C
								Stock	Stock	Stock	Stock	Stock
D	p	Ø	L	l	l1	d	k					
M 12	1.75	11.3	110	29		9	7		●	○	○	○
14	2	13.10	110	30		11	9		○ NEW			○
16	2	15.10	110	32		12	9		○ NEW			○
20	2.5	18.9	140	34		16	12		△ NEW			

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 12 ~20

● stock standard ○ non-standard stock △ on request EX stock exhaustion
4 1 1 4



M 12 ~20

8 6 6 8

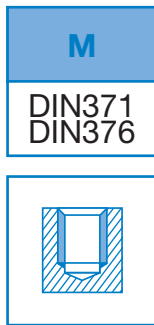
M (MJ)

9352	9352TI	9353	9353TC	9353TI	9354	9354TI			
N-RS-L	N-RS-L	R-D	R-D	R-D	OS-R-D	OS-R-D			
									
15-20	15-20	1 2 15-20	1-4 15-20	1-4 15-20	oversized / maggiorato / übermaß / surcooté 1 2 15-20	oversized / maggiorato / übermaß / surcooté 1-4 15-20			
									
HSSE NI	HSSE TIN	HSSE BR	HSSE TiCN	HSSE TIN	HSSE BR	HSSE TIN			
ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)	ISO2X (6HX)	ISO3X (6GX)	ISO3X (6GX)			
2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C	2P~3P C			
Stock	Stock	Stock	Stock	Stock	Stock	Stock		D	p
		●	○	●	○	○		M 12	1.75
		○	○	○				14	2
		●	○	●				16	2
								20	2.5

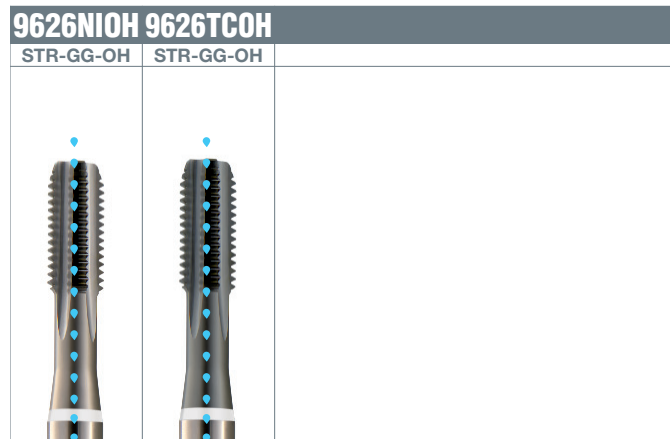
● stock standard ○ non-standard stock △ on request EX stock exhaustion

4	4	4	4	4	M 12 ~20
---	---	---	---	---	----------

8	8	8	8	8	M 12 ~20
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MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
13 - 14	15~25	20~40
16 - 19 - 20	10~20	15~30



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									13 14 16 19 20	
									STR-OH-B	STR-OH-B
									HSSE	HSSE
									NI	TiCN
									ISO2X (6HX)	ISO2X (6HX)
									2P~3P C	2P~3P C
D	p	Ø	L	l	l1	d	k		Stock	Stock
• DIN371										
M 6	1	5	80	19	30	6	4.9	●	●	
8	1.25	6.8	90	22	35	8	6.2	●	●	
10	1.5	8.5	100	24	39	10	8	●	●	
• DIN376									9726NIOH	9726TCOH
12	1.75	10.3	110	29	9	7		●	●	
14	2	12	110	30	11	9		●	●	
16	2	14	110	32	12	9		●	●	
18	2.5	15.5	125	34	14	11		○	○	
20	2.5	17.5	140	34	16	12		●	●	

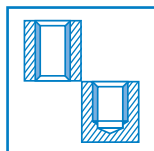
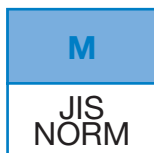
● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 6 ~ 20

4

4



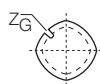
MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
15~20	10~20	



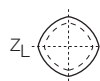
MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								15-20	
								N-RS HSSE NI ISO2X (6HX) 2P	
D	p	Ø	L	l	d	k	Stock		
M 3	0.5	2.75	100	11	4	3.2	○ (G6)		
4	0.7	3.69	100	13	5	4	● (G7)		
6	1	5.55	100	19	6	4.5	○ (G7)		

G CLASS page 53

● stock standard ○ non-standard stock △ on request EX stock exhaustion



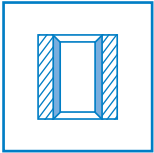
M 3 ~ 6 1



M 3 ~ 6 4

M

DIN357



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1 - 2	5~10	
9 - 10	3~7	
17~19	5~10	

6000

NT

MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE

1 2 9 10
17 18 19

STR
HSS
BR
ISO2 (6H)

D	p	Ø	L	l	l1	d	k	Stock
M 3	0.5	2.5	70	22	16	2.2		○
4	0.7	3.3	90	25	18	2.8	2.1	●
5	0.8	4.2	100	28	20	3.5	2.7	●
6	1	5	110	32	22	4.5	3.4	●
8	1.25	6.8	125	40	28	6.0	4.9	●
10	1.5	8.5	140	45	32	7.0	5.5	●
12	1.75	10.3	180	50	36	9.0	7.0	○
14	2	12	200	56	36	11.0	9.0	○
16	2	14	200	63	40	12.0	9.0	○
18	2.5	15.5	220	63	45	14.0	11.0	○
20	2.5	17.5	250	70	50	16.0	12.0	○

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 20

3

M (MJ)

M

**YAMAWA
NORM**



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1-2	5~10	

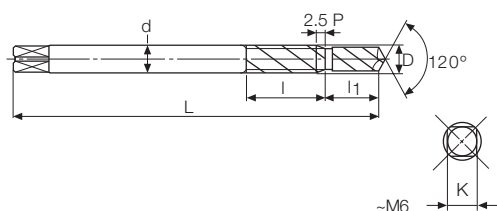
DT OX

SP+DRILL



MATERIAL GROUPS / GRUPPI MATERIALE
WERKSTOFFEGRUPPE / GROUPES MATIÈRE

1 2



HSSE

OX

ISO2
(6H)



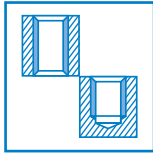
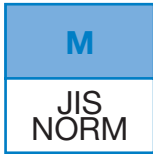
D	p	Ø	L	l	l1	d	k	Stock
M 3	0.5	2.5	65	10	7	3.5	2.80	●
4	0.7	3.3	65	12	8	4.0	3.15	●
5	0.8	4.2	69	15	10	5.0	4.00	●
6	1	5	84	18	12	6.0	4.50	●
8	1.25	6.8	96	21	16	8.0	6.30	●
10	1.5	8.5	108	22	20	10.0	8.00	●
12	1.75	10.3	113	29	24	12.0	10.00	●

● stock standard ○ non-standard stock △ on request EX stock exhaustion

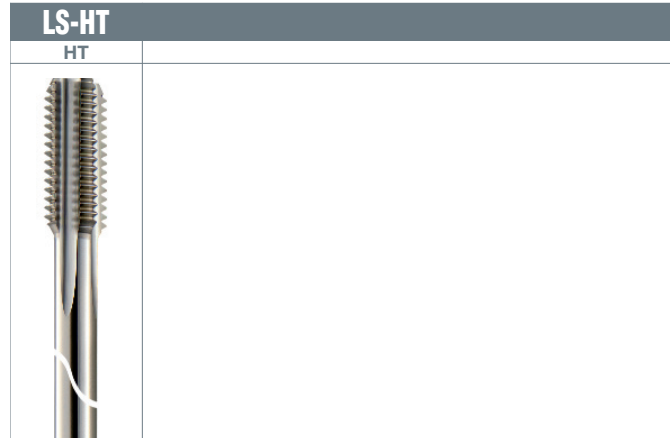


M 3 ~ 12

2



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~10	
13~14	8~12	
16~19~20	10~20	



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									
STR HSSE BR P CLASS 1,5 P									
D	p	Ø	L	l	l1	d	k	Stock	
M 3	0.5	2.5	100	11	18	4	3.2	○ (P1)	
4	0.7	3.3	100	13	21	5	4	○ (P2)	
5	0.8	4.2	100	16	25	5.5	4.5	○ (P2)	
6	1	5	100	19	30	6	4.5	○ (P2)	
8	1.25	6.8	100	22		6.2	5	○ (P2)	
4	0.7	3.3	150	13	21	5	4	○ (P2)	
5	0.8	4.2	150	16	25	5.5	4.5	○ (P2)	
6	1	5	150	19	30	6	4.5	○ (P2)	
8	1.25	6.8	150	22		6.2	5	○ (P2)	
10	1.5	8.5	150	24		7	5.5	○ (P2)	
12	1.75	10.3	150	29		8.5	6.5	○ (P2)	
14	2	12	150	30		10.5	8	○ (P2)	
16	2	14	150	32		12.5	10	○ (P2)	
12	1.75	10.3	200	29		8.5	6.5	○ (P2)	
16	2	14	200	32		12.5	10	○ (P2)	
20	2.5	17.5	200	37		15	12	○ (P3)	

P CLASS page 50

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 6	3
8 ~ 20	4

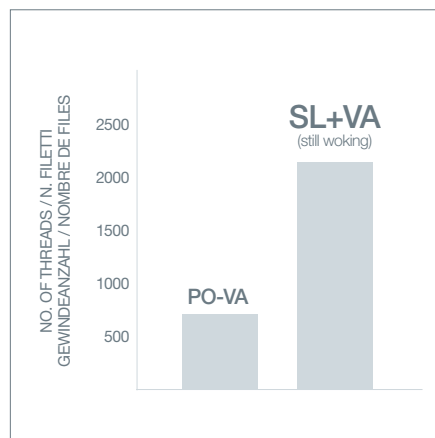
version **UP⁺**

PLUS SHANK TOLERANCE
CUTTING GEOMETRY
FINISHING
CUTTING SPEED
TOOL LIFE

PLUS TOLLERANZA DEL GAMBO
GEOMETRIA DI TAGLIO
FINITURA
VELOCITÀ DI TAGLIO
DURATA UTENSILE

PLUS SCHAFTTOLERANZ
SCHNITTGEOMETRIE
ENDBEARBEITUNG
SCHNITTGESCHWINDIGKEIT
WERZEUGSTANDZEIT

PLUS TOLÉRANCE DE QUEUE
GÉOMÉTRIE DE COUPE
FINITION
VITESSE DE COUPE
DURÉE DE L'OUTIL

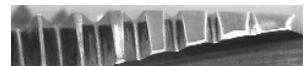


version **UP⁺**

SL+VA 2000 holes



thread profile / profilo filetti
Gewindeprofil / profil du filet



worn out tap / maschio usurato
ausgelaufener Gewindebohrer / taraud usé

STANDARD

PO-VA 700 holes

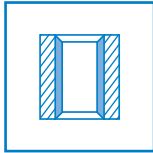
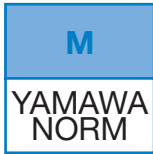


thread profile / profilo filetti
Gewindeprofil / profil du filet



worn out tap / maschio usurato
ausgelaufener Gewindebohrer / taraud usé

LASER MARKING ON THE SQUARE TO PROTECT SHANK ACCURACY.
MARCATURA LASER SUL QUADRO PER PRESERVARE LA PRECISIONE DEL GAMBO.
LASE MARKIERUNG AUF DER VIERKANT UM DER PRÄZISION DER SCHAFT ZU HALTEN.
MARQUAGE LASER SUR LE CARRÉ POUR PRÉSERVER LA PRÉCISION DE LA QUEUE.



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	10~20	
9~11	5~20	

NEW

NEW

9665VPM	9665VP			
SL+VA	SL+VA			

MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE									1-5 9-11	1-5 9-11			
D	p	Ø	L	l	l1	d	k		Stock	Stock			
M 3	0.5	2.5	56	6,5	18	4			●				
4	0.7	3.3	63	9	21	6			●				
5	0.8	4.2	70	10,5	25	6			●				
3	0.5	2.5	56	6,5	18	4	3			●			
4	0.7	3.3	63	9	21	6	4,9			●			
5	0.8	4.2	70	10,5	25	6	4,9			●			
6	1	5	80	15	30	6	4,9			●			
8	1.25	6.8	90	19	35	8	6,2			●			
10	1.5	8.5	100	23	40	10	8			●			
12	1.75	10.3	110	26	45	12	9			●			

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3 ~ 12

3

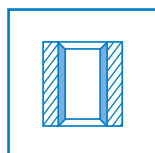
3



VPM



VP



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~15	10~25
9 - 10	4~8	6~12
13 - 14	8~15	12~25
15~20	10~20	15~25



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								1-5 13 14 15-20	1-5 9 10	1-5 9 10 13 14 15 16 18-20	1-5 9 10	1-5 9 10 13 14 15-20
								PO	PO	PO	PO	PO
								HSSE BR	HSSE OX	HSSE TiCN	HSSE PV15	HSSE TiN
								ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)	ISO2 (6H)
								3.5P-5P B	3.5P-5P B	3.5P-5P B	3.5P-5P B	3.5P-5P B
D	p	Ø	L	l	l1	d	k	Stock	Stock	Stock	Stock	Stock
M 1	0.25	0.75	40	5.5		2.5	2.1	○*				
1.2	0.25	0.95	40	5.5		2.5	2.1	○*				
1.4	0.3	1.1	40	7		2.5	2.1	○				
1.6	0.35	1.25	40	8		2.5	2.1	●				
2	0.4	1.6	45	8		2.8	2.1	●				○
2.2	0.45	1.75	45	9		2.8	2.1	○				
2.5	0.45	2.1	50	9		2.8	2.1	●				○
2.6	0.45	2.2	50	9		2.8	2.1	○				
3	0.5	2.5	56	11	18	3.5	2.7	●	●	●	●	●
3.5	0.6	2.9	56	13	20	4	3	●				
4	0.7	3.3	63	13	21	4.5	3.4	●	●	●	●	●
5	0.8	4.2	70	16	25	6	4.9	●	●	●	●	●
6	1	5	80	19	30	6	4.9	●	●	●	●	●
7	1	6	80	19	30	7	5.5	●				
8	1.25	6.8	90	22	35	8	6.2	●	●	●	●	●
10	1.5	8.5	100	24	39	10	8	●	●	●	●	●

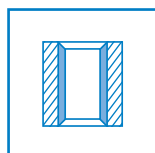
*9630 M1 ~ 1.2 = N-PO

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 1 ~ 1.8	2				
2 ~ 2.6	2				2
3 ~ 10	3	3	3	3	3

96306G		963010		9634		9634TC				
OS-PO		OS-PO		PO-INT		PO-INT				
oversized / maggiorato / übermaß / surcoté		oversized / maggiorato / übermaß / surcoté								
										
1-5 13 14 15-20		1-5 13 14 15-20		1-5 9 10 15-20		1-5 9 10 15 16 18-20				
										
HSSE BR		HSSE BR		HSSE BR		HSSE TiCN				
ISO3 (6G)		ISO2+0,10 (6H+0,10)		ISO2 (6H)		ISO2 (6H)				
										
Stock		Stock		Stock		Stock				
								D		p
								M 1		0.25
								1.2		0.25
								1.4		0.3
								1.6		0.35
				●		○		2		0.4
				●		○		2.2		0.45
				●		○		2.5		0.45
				●		○		2.6		0.45
●				●		○		3		0.5
●		●		●		●		3.5		0.6
●		●		●		●		4		0.7
●		●		●		●		5		0.8
								6		1
●		●		●		●		7		1
●		●		●		○		8		1.25
								10		1.5
● stock standard ○ non-standard stock △ on request EX stock exhaustion										
M 1 ~ 1.8										
2 ~ 2.6										
3 ~ 10										
3	3	3	3							



MATERIAL GROUP	Vc (m/min)	
	BR-OX-NX-NI	TiN-TiCN PV15
1~5	5~15	10~25
9~10	4~8	6~12
13~14	8~15	12~25
15~20	10~20	15~25



MATERIAL GROUPS / GRUPPI MATERIALE WERKSTOFFEGRUPPE / GROUPES MATIÈRE								1-5 13 14 15-20		1-5 9 10		1-5 9 10 13 14 15 16 18-20				1-5 9 10		1-5 9 10 13 14 15-20			
								PO		PO		PO				PO		PO			
								HSSE		HSSE		HSSE				HSSE		HSSE			
								BR		OX		TiCN				PV15		TiN			
								ISO2 (6H)		ISO2 (6H)		ISO2 (6H)				ISO2 (6H)		ISO2 (6H)			
								3.5P-5P B		3.5P-5P B		3.5P-5P B				3.5P-5P B		3.5P-5P B			
D	p	Ø	L	l	d	k		Stock		Stock		Stock				Stock		Stock			
M 3	0.5	2.5	56	11	2.2			○													
4	0.7	3.3	63	13	2.8	2.1		●													
5	0.8	4.2	70	16	3.5	2.7		●													
6	1	5	80	19	4.5	3.4		●		○		○						○			
8	1.25	6.8	90	22	6	4.9		●		○		○						○			
10	1.5	8.5	100	24	7	5.5		●		○		○						○			
12	1.75	10.3	110	29	9	7		●		●		●				●		●			
14	2	12	110	30	11	9		●		●		●				●		●			
16	2	14	110	32	12	9		●		●		●				●		●			
18	2.5	15.5	125	34	14	11		●		○		●				○		●			
20	2.5	17.5	140	34	16	12		●		●		●				○		●			
22	2.5	19.5	140	34	18	14.5		●				○						○			
24	3	21	160	38	18	14.5		●				●						●			
27	3	24	160	38	20	16		●										○			
30	3.5	26.5	180	45	22	18		●										○			
33	3.5	29.5	180	50	25	20		●													
36	4	32	200	56	28	22		●													

● stock standard ○ non-standard stock △ on request EX stock exhaustion



M 3	~ 24	3	3	3	3	3
27	~ 36	4		4		4

97306G	973010	9734	9734TC			
OS-PO	OS-PO	PO-INT	PO-INT			
oversized / maggiorato / übermaß / surcoté	oversized / maggiorato / übermaß / surcoté					
						
1~5 13 14 15-20	1~5 13 14 15-20	1~5 9 10 15-20	1~5 9 10 15 16 18-20			
PO 	PO 	PO INT 	PO INT 			
HSSE BR	HSSE BR	HSSE BR	HSSE TiCN			
IS03 (6G)	IS02+0,10 (6H+0,10)	IS02 (6H)	IS02 (6H)			
3.5P-5P B 	3.5P-5P B 	3.5P-5P B 	3.5P-5P B 			
Stock	Stock	Stock	Stock	D	p	
				M 3	0.5	
				4	0.7	
				5	0.8	
				6	1	
		○		8	1.25	
		○		10	1.5	
●	○	●	○	12	1.75	
○		○	○	14	2	
○		○	○	16	2	
		○		18	2.5	
		○		20	2.5	
				22	2.5	
				24	3	
				27	3	
				30	3.5	
				33	3.5	
				36	4	
● stock standard ○ non-standard stock △ on request EX stock exhaustion						
3	3	3	3	M 3	~ 24	
				27	~ 36	