

ALSO AVAILABLE
ANCHE DISPONIBILE
AUCH ZUR VERFÜGUNG
DISPONIBLE AUSSI

 **OX** (X)

 **PV15** $V_c=+50\%$ (TH)

 **E**
Chamfer
Imbocco
Anschnitt
Entrée

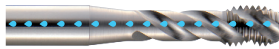
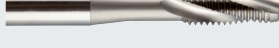
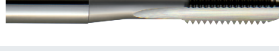
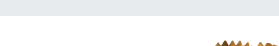
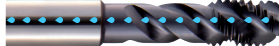
 **LS**
Long shank
Serie lunga
Lang Schaft
Queue longue

 **OS**
Oversized
Maggiorato
Übermass
Surcoté

 **TiCN** $V_c=+50\%$ (TC)

 **TiN** $V_c=+50\%$ (TI)

V_c (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
40~80	 HFIHS	 HFIHS						
40~80	 HFISP	 HFISP						
20~40	 F-SP	 F-SP						
10~20	 9685							
10~15	  9645 / 9745	 9845	 9945			 9345 / 9445	 5985	
10~20	 9640OH / 9740OH							
5~15	  9640 / 9740	  9840	 9940			 9340 / 9440		
10~15	 9647 / 9747							
5~15	  9641 / 9741	 9841	 9941					
5~10	 9620 / 9720	 9820	 9920	 PT	 PS	 9320 / 9420	 5980	 5990
20~40	 1356	 1856				 HP-RZ		
20~40	 1355							
10~20	  9353		 9953					
10~20	 9351							
40~70	 HFIHS	 HFIHS						
40~70	 HFISP	 HFISP						
20~30	 F-SP	 F-SP						
10~20	 1641 / 1741 (J)	  1841				 1341 / 1441 (J)	 131	
10~20	 1640 / 1740 (J)	  1840				 1340 / 1440 (J)	 131	
10~20	 9648 / 9748	  9848	 9948					
10~20	 9685							

	ULTRA FAST	FAST	SPECIAL PURPOSE	GENERAL PURPOSE	HP ROLL	ROLL			
	Ultra-high speed Velocità ultra-rapida Ultra-hohe Geschwindigkeit Ultra haute vitesse	High speed Alta velocità Hohe Geschwindigkeit Grande vitesse	Special purpose Applicazioni specifiche Sonderanwendungen Applications spécifiques	General purpose Applicazioni generiche Allgemeineanwendungen Applications générales	High performance Alto rendimento Hochleistung Haute performance	Roll Taps Maschi a rullare Gewindeformer Tarauds à refouler			
STEEL / ACCIAO / STAHL / ACIER 600~1000 N/mm²	4 5		SPECIAL PURPOSE		45°	HSSE OX	SP-VA		
	4 5		GENERAL PURPOSE		40°-OH	HSSE BR	SP-OH		
	4 5		GENERAL PURPOSE		40°	HSSE BR	SP		
	4 5		GENERAL PURPOSE		BLF40°	HSSE BR	SP-BLF		
	4 5		GENERAL PURPOSE		15°	HSSE BR	LOSP		
	4 5		GENERAL PURPOSE		STR	HSSE BR	STR		
	4 5		HP ROLL		HP-RZ	HSS-P TiCN	HP-RZ		
	4 5		HP ROLL		OL-RZ	HSS-P TiCN	OL-RZ		
	4 5		ROLL		R-D	HSSE BR	R-D		
STEEL / ACCIAO / STAHL / ACIER 900~1200 N/mm²	5 6		ULTRA FAST		48°-OH	HSSE TiCN	SYNCHRO RIGID	HFIHS	
	5 6		ULTRA FAST		8°-OH	HSSE TiCN	SYNCHRO RIGID	HFISP	
	5 6		FAST		45°	HSSE TiN	SYNCHRO RIGID	F-SP	
	5 6		SPECIAL PURPOSE		15°	HSS-P NI	SYNCHRO RIGID	ZET-B	
	5 6		SPECIAL PURPOSE		45°	HSS-P OX	SYNCHRO RIGID	ZEN-B	
	5 6		SPECIAL PURPOSE		40°	HSSE OX	SYNCHRO RIGID	PH-SP	
	5 6		SPECIAL PURPOSE		STR	HSS/Co BR		EH-HT	
STEEL / ACCIAO / STAHL / ACIER >1200 N/mm² (35~45 HRC)	7		SPECIAL PURPOSE		L15°	HSS-P NI	SYNCHRO RIGID	ZET-B	
	7		SPECIAL PURPOSE		STR	HSS/Co BR		EH-HT	
STEEL / ACCIAO / STAHL / ACIER 45~63 HRC	8		SPECIAL PURPOSE		STR	CARBIDE TiAlN	SYNCHRO RIGID	UH-CT	
STAINLESS STEEL V2A ACCIAIO INOSSIDABILE V2A ROSTFREIER STAHL V2A ACIER INOXIDABLE V2A	9 10		ULTRA FAST		48°-OH	HSSE TiCN	SYNCHRO RIGID	HFIHS	
	9 10		FAST		45°	HSSE TiN	SYNCHRO RIGID	F-SP	

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 **TiCN** Vc=+50% (TC)

 **TiN** Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
10~15	  9645 / 9745 78 80	9845 115	9945 140			9345 / 9445 130 131	5985 147	
10~20	 9640OH / 9740OH 82 82							
5~15	   9640 / 9740 74 76	   9840 114	  9940 140			9340 / 9440 130 131		
5~15	    9647 / 9747 75 77							
5~15	    9641 / 9741 84 86	  9841 119	  9941 141					
5~10	 9620 / 9720 88 89	 9820 120	 9920 142	 PT 149	 PS 146	9320 / 9420 133 133	5980 147	5990 148
15~30	1356 104 106	1856 129				HP-RZ 136		
15~30	1355 104							
5~20	   9353 105 107		 9953 145					
30~50	HFIHS 58	HFIHS 58						
30~50	HFISP 58	HFISP 58						
15~25	F-SP 61	F-SP 61						
5~15	 1641 / 1741 (J) 84 86	 1841 111 ^(J) 119				1341 / 1441 (J) 130 131	137 ^(J)	
5~15	1640 / 1740 (J) 78 80	1840 114				1340 / 1440 (J) 130 131	137 ^(J)	
5~12	9648 / 9748 79 81	9848 115	9948 140					
3~10	2620 / 2720 88 89	2820 120	2920 142					
3~5	 1641 / 1741 (J) 84 86	 1841 111 ^(J) 119				1341 / 1441 (J) 130 131	137 ^(J)	
3~5	2620 / 2720 88 89	2820 120	2920 142					
<55HRC 2~6 >55HRC 1~4	UH-CT 63							
25~40	HFIHS 58	HFIHS 58						
15~25	F-SP 61	F-SP 61						



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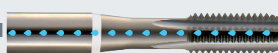
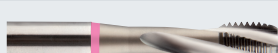
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TiN Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
10~20	1640 / 1740 (J) 	1840 				1340 / 1440 (J) 		
8~20	9685 							
5~12	9645 / 9745 	9845 	9945 			9345 / 9445 	5985	
10~30	1356 	1856 				HP-RZ 		
10~30	1355 							
25~35	HFIHS 	HFIHS 						
15~25	F-SP 	F-SP 						
5~15	1640 / 1740 (J) 	1840 				1340 / 1440 (J) 		
5~15	9644 / 9744 		9944 					
10~20	1356 	1856 				HP-RZ 		
10~20	1355 							
50~100	HFICT-B 	HFICT-B 						
40~80	HFISP 	HFISP 						
40~80	HFIHS 	HFIHS 						
15~30	F-SP 	F-SP 						
15~30	3626 / 3726 		3926 					
15~25	9626OH / 9726OH 	9826OH 						
10~20	9626 / 9726 	9826 						
8~15	9640 / 9740 	9840 				9340 / 9440 		
5~10	9620 / 9720 	9820 		PT 	PS 	9320 / 9420 	5980 	5990
100~	HFACT-B 	HFACT-B 						

ULTRA FAST		Ultra-high speed Velocità ultra-rapida Ultra-hohe Geschwindigkeit Ultra haute vitesse	SPECIAL PURPOSE		Special purpose Applicazioni specifiche Sonderanwendungen Applications spécifiques	HP ROLL		High performance Alto rendimento Hochleistung Haute performance		
FAST		High speed Alta velocità Hohe Geschwindigkeit Grande vitesse	GENERAL PURPOSE		General purpose Applicazioni generiche Allgemeineanwendungen Applications générales	ROLL		Roll Taps Maschi a rullare Gewindeformer Tarauds à refouler		
ALUMINIUM AND ALLOYS ALLUMINIO E LEGHE ALUINIUM UND LEGIERUNGEN ALUMINIUM ET ALLIAGES	15~20	ULTRA FAST		HSSE TiCN	SYNCHRO RIGID	HFAHS				
	15~20	ULTRA FAST		HSSE TiCN	SYNCHRO RIGID	HFASP				
	15~20	FAST		HSSE TiN	SYNCHRO RIGID	F-SP				
	15~20	SPECIAL PURPOSE		HSSE NI		AL-SP				
	16 19 20	SPECIAL PURPOSE		HSSE NI		STR-GG-OH				
	16 19 20	SPECIAL PURPOSE		HSSE NI		STR-GG				
	15~20	GENERAL PURPOSE		HSSE BR		SP-OH				
	15~20	GENERAL PURPOSE		HSSE BR		SP				
	15~20	GENERAL PURPOSE		HSSE BR		SP-BLF				
	15 17 18	GENERAL PURPOSE		HSSE BR		HISP 2F				
	15~20	GENERAL PURPOSE		HSSE BR		HISP				
	16 19 20	GENERAL PURPOSE		HSSE BR		STR				
	15~20	HP ROLL		HSS-P TiCN		HP-RZ				
	15~20	HP ROLL		HSS-P TiCN		OL-RZ				
	15~20	ROLL		HSSE NI		N-RS				
	15~20	ROLL		HSSE NI		N-RS-L				
	15~20	ROLL		HSSE BR		R-D				
	SUPERALLOY / SUPERLEGHE SUPERLEGIERUNG / SUPERALLIAGES		22 24	SPECIAL PURPOSE		HSS-P OX	SYNCHRO RIGID	ZEN-B		
SUPERALLOY / SUPERLEGHE SUPERLEGIERUNG / SUPERALLIAGES		21 23 25 26	SPECIAL PURPOSE		HSS-P NI	SYNCHRO RIGID	ZET-B			



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TiN Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
50~100	HFAHS 	HFAHS 						
50~100	HFASP 	HFASP 						
20~50	F-SP 	F-SP 						
10~20	9643 / 9743 							
15~25	9626OH / 9726OH 	9826OH 						
10~20	9626 / 9726 	9826 	9926 					
15~25	9640OH / 9740OH 							
10~20	9640 / 9740 	9840 	9940 			9340 / 9440 		
10~20	9647 / 9747 							
10~20	96422F 							
10~20	9642 / 9742 							
5~10	9620 / 9720 	9820 	9920 	PT 	PS 	9320 / 9420 	5980 	5990
20~40	1356 	1856 				HP-RZ 		
20~40	1355 							
10~25	9350 							
10~25	9352 							
10~25	9353 		9953 					
3~10	1640 / 1740 (J) 	1840 				1340 / 1440 (J) 		
5~10	1641 / 1741 (J) 	1841 				1341 / 1441 (J) 		

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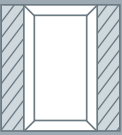
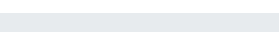
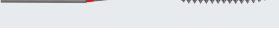
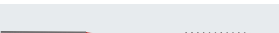
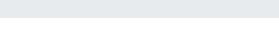
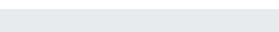
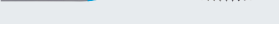
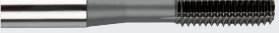
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 **TiCN** Vc=+50% (TC)

 **TiN** Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
40~80	 HDISL	 HDISL						
20~40	 F-SL	 F-SL						
10~20	 9665							
10~15	 9635 / 9735 	 9835				 9335 / 9435 		
10~20	 9630OH / 9730OH 							
5~15	      9630 / 9730  9830  9930		 9930			 9330 / 9430 		
5~10	 9620 / 9720 	 9820	 9920	 PT	 PS	 9320 / 9420 	 5980	 5990
20~40	 1356 	 1856				 HP-RZ		
20~40	 1355							
10~20	  9353		 9953					
10~20	 9351 							
40~70	 HDISL	 HDISL						
20~30	 F-SL	 F-SL						
10~20	 1649 / 1749(J)   1849					 1349 / 1449(J) 		
10~20	 1630 / 1730(J)   1830					 1330 / 1430(J) 		
10~20	 9665							
10~15	 9635 / 9735 	 9835				 9335 / 9435 		
10~20	 9630OH / 9730OH 							
5~15	     9630 / 9730  9830  9930		 9930			 9330 / 9430 		
5~10	 9620 / 9720 	 9820	 9920	 PT	 PS	 9320 / 9420 	 5980	 5990
15~30	 1356 	 1856				 HP-RZ		

ULTRA FAST Ultra-high speed Velocità ultra-rapida Ultra-hohe Geschwindigkeit Ultra haute vitesse	FAST High speed Alta velocità Hohe Geschwindigkeit Grande vitesse	SPECIAL PURPOSE Special purpose Applicazioni specifiche Sonderanwendungen Applications spécifiques	GENERAL PURPOSE General purpose Applicazioni generiche Allgemeinwendungen Applications générales	HP ROLL High performance Alto rendimiento Hochleistung Haute performance	ROLL Roll Taps Maschi a rullare Gewindeformer Tarauds à refouler			
STEEL / ACCIAO / STAHL / ACIER 600~1000 N/mm ²	4 5	HP ROLL	OL-RZ	HSS-P TiCN	OL-RZ			
	4 5	ROLL	R-D	HSSE BR	R-D			
STEEL / ACCIAO / STAHL / ACIER 900~1200 N/mm ²	5 6	ULTRA FAST	L15°-OH	HSSE TiCN	SYNCHRO RIGID	HDISL		
	5 6	FAST	L15°	HSSE TiN	SYNCHRO RIGID	F-SL		
	5 6	SPECIAL PURPOSE	L15°	HSS-P NI	SYNCHRO RIGID	ZET-P		
	5 6	SPECIAL PURPOSE	PO	HSS-P NX	SYNCHRO RIGID	ZEN-P		
	5 6	SPECIAL PURPOSE	PO	HSS/Co BR		EH-PO		
	5 6	SPECIAL PURPOSE	STR	HSS/Co BR		EH-HT		
STEEL / ACCIAO / STAHL / ACIER >1200 N/mm ² (35~45 HRC)	7	SPECIAL PURPOSE	L15°	HSS-P NI	SYNCHRO RIGID	ZET-P		
	7	SPECIAL PURPOSE	PO	HSS-P NX	SYNCHRO RIGID	ZEN-P		
	7	SPECIAL PURPOSE	PO	HSS/Co BR		EH-PO		
	7	SPECIAL PURPOSE	STR	HSS/Co BR		EH-HT		
STEEL / ACCIAO / STAHL / ACIER 45~63 HRC	8	SPECIAL PURPOSE	STR	CARBIDE TiAlN	SYNCHRO RIGID	UH-CT		
STAINLESS STEEL V2A ACCIAIO INOSSIDABILE V2A ROSTFREIER STAHL V2A ACIER INOXIDABLE V2A	9 10	ULTRA FAST	L15°-OH	HSSE TiCN	SYNCHRO RIGID	HDISL		
	9 10	FAST	L15°	HSSE TiN	SYNCHRO RIGID	F-SL		
	9 10	SPECIAL PURPOSE	PO	HSS-P NX	SYNCHRO RIGID	ZEN-P		
	9 10	SPECIAL PURPOSE	L15°	HSSE OX		SL+VA		
	9 10	SPECIAL PURPOSE	PO	HSSE OX		PO-VA		
	9 10	HP ROLL	HP-RZ	HSS-P TiCN		HP-RZ		
STAINLESS STEEL V4A ACCIAIO INOSSIDABILE V4A ROSTFREIER STAHL V4A ACIER INOXIDABLE V4A	9 10	HP ROLL	OL-RZ	HSS-P TiCN		OL-RZ		
	11	ULTRA FAST	L15°-OH	HSSE TiCN	SYNCHRO RIGID	HDISL		

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TiN Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
15~30	1355 104							
5~20	9353 105 107		9953 145					
30~50	HDISL 58	HDISL 58						
15~25	F-SL 61	F-SL 61						
5~15	1649 / 1749(J) 98 111 ^(J)	1849 100 124				1349 / 1449(J) 134 137 ^(J)		
5~15	1630 / 1730(J) 98 111 ^(J)	1830 100 124				1330 / 1430(J) 134 137 ^(J)		
3~12	2630 / 2730 98 100	2830 124						
3~8	2620 / 2720 88 89	2820 120	2920 142					
3~5	1649 / 1749(J) 98 111 ^(J)	1849 100 124				1349 / 1449(J) 134 137 ^(J)		
3~5	1630 / 1730(J) 98 111 ^(J)	1830 100 124				1330 / 1430(J) 134 137 ^(J)		
3~5	2630 / 2730 98 100	2830 124						
3~5	2620 / 2720 88 89	2820 120	2920 142					
<55HRC 2~6 >55HRC 1~4	UH-CT 63							
25~40	HDISL 58	HDISL 58						
15~25	F-SL 61	F-SL 61						
10~20	1630 / 1730(J) 98 111 ^(J)	1830 100 124				1330 / 1430(J) 134 137 ^(J)		
10~20	9665 93							
5~12	9635 / 9735 99 101	9835 125				9335 / 9435 134 135		
10~30	1356 104 106	1856 129				HP-RZ 136		
10~30	1355 104							
25~35	HDISL 58	HDISL 58						



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TiN Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
15~25	F-SL 	F-SL 						
5~15	1630 / 1730(J) 	1830 				1330 / 1430(J) 		
5~15	9665 							
5~10	9635 / 9735 	9835 				9335 / 9435 		
10~20	1356 	1856 				HP-RZ 		
10~20	1355 							
50~100	HFICT-P 	HFICT-P 						
40~60	HDISL 	HDISL 						
15~30	F-SL 	F-SL 						
15~30	3626 / 3726 		3926 					
10~20	9626 / 9726 	9826 	9926 					
10~20	9630OH / 9730OH 							
8~15	9630 / 9730 	9830 	9930 			9330 / 9430 		
5~10	9620 / 9720 	9820 	9920 	PT 	PS 	9320 / 9420 	5980 	5990
100~	HFACT-P 	HFACT-P 						
50~100	HDISL 	HDISL 						
20~50	F-SL 	F-SL 						
10~20	9623 / 9723 							
10~20	9626 / 9726 	9826 	9926 					
10~20	9630OH / 9730OH 							
10~20	9634 / 9734 							

ULTRA FAST	Ultra-high speed Velocità ultra-rapida Ultra-hohe Geschwindigkeit Ultra haute vitesse	SPECIAL PURPOSE	Special purpose Applicazioni specifiche Sonderanwendungen Applications spécifiques	HP ROLL	High performance Alto rendimento Hochleistung Haute performance			
FAST	High speed Alta velocità Hohe Geschwindigkeit Grande vitesse	GENERAL PURPOSE	General purpose Applicazioni generiche Allgemeineanwendungen Applications générales	ROLL	Roll Taps Maschi a rullare Gewindeformer Tarauds à refouler			
ALUMINIUM AND ALLOYS ALLUMINIO E LEGHE ALUMINIUM UND LEGIERUNGEN ALUMINIUM ET ALLIAGES	15~20	GENERAL PURPOSE		PO	HSSE BR	PO		
	16 19 20	GENERAL PURPOSE		STR	HSSE BR	STR		
	15~20	HP ROLL		HP-RZ	HSS-P TiCN	HP-RZ		
	15~20	HP ROLL		OL-RZ	HSS-P TiCN	OL-RZ		
	15~20	ROLL		N-RS	HSSE NI	N-RS		
	15~20	ROLL		N-RS-L	HSSE NI	N-RS-L		
	15~20	ROLL		R-D	HSSE BR	R-D		
SUPERALLOY / SUPERLEGHE SUPERLEGIERUNG / SUPERALLIAGES	22 24	SPECIAL PURPOSE		PO	HSS-P NX		ZEN-P	
SUPERALLOY / SUPERLEGHE SUPERLEGIERUNG / SUPERALLIAGES	21 23 25 26	SPECIAL PURPOSE		L15°	HSS-P NI		ZET-P	



ALSO AVAILABLE
ANCHE DISPONIBILE
AUCH ZUR VERFÜGUNG
DISPONIBLE AUSSI

OX (X)

PV15 Vc=+50% (TH)

LS
Long shank
Serie lunga
Lang Schaft
Queue longue

OS
Oversized
Maggiorato
Übermass
Surcoté

TiCN Vc=+50% (TC)

TiN Vc=+50% (TI)

Vc (m/min)	M (J)	MF	G	Rc	Rp	UNC/UNF (J)	NPT	NPTF
10~20	 9630 / 9730 94 96	 9830 124 124	 9930 143			9330 / 9430 134 135		
5~10	 9620/9720 88 89	 9820 120	 9920 142	PT 149	PS 146	9320/9420 133 133	5980 147	5990 148
20~40	1356 104 106	1856 129				HP-RZ 136		
20~40	1355 104							
10~25	 9350 104 106							
10~25	 9352 105							
10~25	 9353 105 107		 9953 145					
3~10	1630 / 1730(J) 98 111 ^(J) 100	1830 124				1330 / 1430(J) 134 137 ^(J) 135		
5~10	1649/1749(J) 98 111 ^(J) 100	1849 124				1349 / 1449(J) 134 137 ^(J) 135		