

ET90

TZ18



For high performance T-slot milling with high feed rates and depths of cut. Also suitable for groove bottom machining in circular milling applications. Tangentially installed indexable inserts warrant optimum chip removal paired with high performance at all times.

High Performance Standard

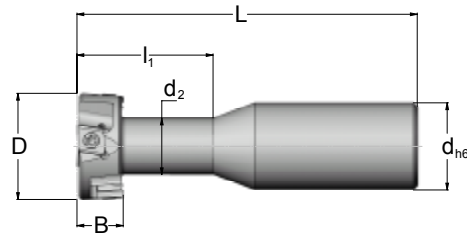
T-SLOT MILLING CUTTERS
CIRCULAR MILLING CUTTERS

T-SLOT MILLING CUTTERS

ET90



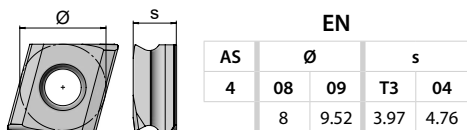
4-cutting edge EN indexable insert
 High performance T-slot milling cutters,
 DIN 650-compliant
 Excellent chip removal thanks to tangentially
 installed indexable insert



ET90 Shank end mills											
Article	D	d ₂	d _{h6}	L	l ₁	B	zz	z _{eff}	lc	kg	INS
15E.3213.010	32	16.8	32	115	39	13	2 x 2	2	yes	0.51	EN..08T3.R/L
15E.4017.010	40	20.8	32	125	50	17	2 x 2	2	yes	0.65	EN..0904.R/L
15E.4821.010	48	26.0	32	135	60	21	2 x 3	2	yes	0.80	EN..08T3.R/L

Smaller diameters ETC90 page 104

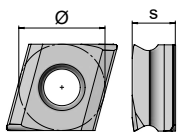
INS SHAPE EN



Matching of machining parameters
with the AV material groups

				Steel						
Article	Designation			A22	A21	A20	A19	A18	A17	A16
EN..08T3..	EN.08T3.012.09 SKY77	ENHQ 08T306 SL-28W	h_{max}	0.15	0.15	0.12	0.12	0.10	0.10	0.08
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.08T3.014.09 SKY77	ENHQ 08T306 SR-28W	h_{max}	0.15	0.15	0.12	0.12	0.10	0.10	0.08
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.08T3.017.26 SKY77	ENHQ 08T306 SL-28V	h_{max}	0.15	0.15	0.12	0.12	0.10	0.10	0.08
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.08T3.016.26 SKY77	ENHQ 08T306 SR-28V	h_{max}	0.15	0.15	0.12	0.12	0.10	0.10	0.08
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.08T3.001.54 SKY77	ENHQ 08T306 SL-30	h_{max}	-	-	0.10	0.10	0.08	0.08	-
			v_c	-	-	210-240	180-210	140-180	110-140	-
	EN.08T3.002.54 SKY77	ENHQ 08T306 SR-30	h_{max}	-	-	0.10	0.10	0.08	0.08	-
			v_c	-	-	210-240	180-210	140-180	110-140	-
EN..0904..	EN.0904.023.12 SKY77	ENHQ 090408 SL-28W	h_{max}	0.18	0.18	0.15	0.15	0.12	0.12	0.10
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.0904.022.12 SKY77	ENHQ 090408 SR-28W	h_{max}	0.18	0.18	0.15	0.15	0.12	0.12	0.10
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.0904.017.26 SKY77	ENHQ 090408 SL-28V	h_{max}	0.18	0.18	0.15	0.15	0.12	0.12	0.10
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.0904.016.26 SKY77	ENHQ 090408 SR-28V	h_{max}	0.18	0.18	0.15	0.15	0.12	0.12	0.10
			v_c	240-280	240-280	210-240	180-210	140-180	110-140	80-110
	EN.0904.003.54 SKY77	ENHQ 090408 SL-30	h_{max}	-	-	0.12	0.12	0.10	0.10	-
			v_c	-	-	210-240	180-210	140-180	110-140	-
	EN.0904.002.54 SKY77	ENHQ 090408 SR-30	h_{max}	-	-	0.12	0.12	0.10	0.10	-
			v_c	-	-	210-240	180-210	140-180	110-140	-

INS SHAPE EN



EN					
AS	Ø		s		
4	08	09	T3	04	
	8	9.52	3.97	4.76	

Matching of machining parameters
with the AV material groups

				Cast iron						
Article	Designation			D21	D20	D19	D18	D17	D16	
EN..08T3..	EN.08T3.012.09 SKY77	ENHQ 08T306 SL-28W	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	240-280	240-280	210-240	210-240	180-210	140-180	
	EN.08T3.012.09 NERO26	ENHQ 08T306 SL-28W	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	280-340	240-280	220-250	200-240	180-210	140-180	
EN..08T3..	EN.08T3.014.09 SKY77	ENHQ 08T306 SR-28W	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	240-280	240-280	210-240	210-240	180-210	140-180	
	EN.08T3.014.09 NERO26	ENHQ 08T306 SR-28W	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	280-340	240-280	220-250	200-240	180-210	140-180	
EN..08T3..	EN.08T3.017.26 SKY77	ENHQ 08T306 SL-28V	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	240-280	240-280	210-240	210-240	180-210	140-180	
	EN.08T3.017.26 NERO26	ENHQ 08T306 SL-28V	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	280-340	240-280	220-250	200-240	180-210	140-180	
EN..08T3..	EN.08T3.016.26 SKY77	ENHQ 08T306 SR-28V	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	240-280	240-280	210-240	210-240	180-210	140-180	
	EN.08T3.016.26 NERO26	ENHQ 08T306 SR-28V	h_{max}	0.15	0.15	0.13	0.12	0.10	0.08	
			v_c	280-340	240-280	220-250	200-240	180-210	140-180	
EN..0904..	EN.0904.023.12 SKY77	ENHQ 090408 SL-28W	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10	
			v_c	240-280	240-280	210-240	210-240	180-210	140-180	
	EN.0904.023.12 NERO26	ENHQ 090408 SL-28W	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10	
			v_c	280-340	240-280	220-250	200-240	180-210	140-180	
	EN..0904..	EN.0904.022.12 SKY77	ENHQ 090408 SR-28W	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10
				v_c	240-280	240-280	210-240	210-240	180-210	140-180
		EN.0904.022.12 NERO26	ENHQ 090408 SR-28W	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10
				v_c	280-340	240-280	220-250	200-240	180-210	140-180
	EN..0904..	EN.0904.017.26 SKY77	ENHQ 090408 SL-28V	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10
				v_c	240-280	240-280	210-240	210-240	180-210	140-180
		EN.0904.017.26 NERO26	ENHQ 090408 SL-28V	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10
				v_c	280-340	240-280	220-250	200-240	180-210	140-180
EN..0904..	EN.0904.016.26 SKY77	ENHQ 090408 SR-28V	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10	
			v_c	240-280	240-280	210-240	210-240	180-210	140-180	
	EN.0904.016.26 NERO26	ENHQ 090408 SR-28V	h_{max}	0.18	0.18	0.15	0.14	0.12	0.10	
			v_c	280-340	240-280	220-250	200-240	180-210	140-180	

INS



EN..08T3...	08B.0309.7991	TX208
EN..0904...	08B.3509.7991	TX215

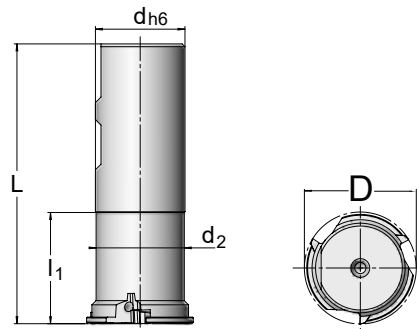
Mounting | CN/EN/FN
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CIRCULAR MILLING CUTTERS

TZ18



Standard for all circlip grooves
 Three-side embedding of the circular indexable insert
 Ideal for groove bottom machining

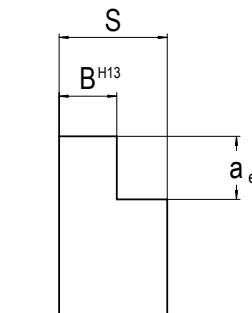


TZ18
Shank end mills

Article	D	d ₂	d _{h6}	L	l ₁	z _{eff}	a _e	lc	kg	INS
13T.2510.001	25	20.5	25	100	40	3	1.4 - 2.2	yes	0.31	TC..1103.R
13T.4011.001	40	31.5	32	100	39	3	2.2 - 3.2	yes	0.61	TN..1604.R

Data
INS

Article	D	s	B ^{H13}	a _e
TC.1103.030.06 SKY77	6.35	3.20	1.60	1.40
TC.1103.030.05 SKY77	6.35	3.20	1.85	1.70
TC.1103.030.04 SKY77	6.35	3.20	2.15	2.00
TC.1103.030.03 SKY77	6.35	3.20	2.65	2.20
TN.1604.018.01 SKY77	9.52	4.76	2.65	2.20
TN.1604.018.02 SKY77	9.52	4.76	3.15	2.20
TN.1604.018.03 SKY77	9.52	4.76	4.15	3.20



INS SHAPE TC | TN

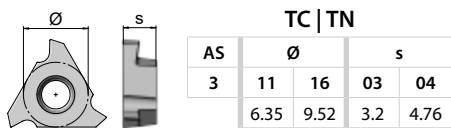
		TC TN			
AS	Ø	s			
3	11	16	03	04	
	6.35	9.52	3.2	4.76	

Matching of machining parameters
with the AV material groups

				Steel						
Article		Designation		A22	A21	A20	A19	A18	A17	A16
TC..1103..	TC.1103.030.06 SKY77	TCAX 110316 TR-25	h_{max}	0.12	0.10	0.08	0.07	0.06	0.05	0.05
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	TC.1103.030.05 SKY77	TCAX 110318 TR-25	h_{max}	0.12	0.10	0.08	0.07	0.06	0.05	0.05
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	TC.1103.030.04 SKY77	TCAX 110321 TR-25	h_{max}	0.12	0.10	0.08	0.07	0.06	0.05	0.05
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	TC.1103.030.03 SKY77	TCAX 110326 TR-25	h_{max}	0.12	0.10	0.08	0.07	0.06	0.05	0.05
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
TN..1604..	TN.1604.018.01 SKY77	TNAX 160426 TR-25	h_{max}	0.15	0.12	0.10	0.09	0.08	0.07	0.06
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	TN.1604.018.02 SKY77	TNAX 160432 TR-25	h_{max}	0.15	0.12	0.10	0.09	0.08	0.07	0.06
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	TN.1604.018.03 SKY77	TNAX 160441 TR-25	h_{max}	0.15	0.12	0.10	0.09	0.08	0.07	0.06
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110

				Cast iron					
Article		Designation		D21	D20	D19	D18	D17	D16
TC..1103..	TC.1103.030.06 SKY77	TCAX 110316 TR-25	h_{max}	0.13	0.10	0.08	0.08	0.06	0.06
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
	TC.1103.030.05 SKY77	TCAX 110318 TR-25	h_{max}	0.13	0.10	0.08	0.08	0.06	0.06
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
	TC.1103.030.04 SKY77	TCAX 110321 TR-25	h_{max}	0.13	0.10	0.08	0.08	0.06	0.06
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
	TC.1103.030.03 SKY77	TCAX 110326 TR-25	h_{max}	0.13	0.10	0.08	0.08	0.06	0.06
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
TN..1604..	TN.1604.018.01 SKY77	TNAX 160426 TR-25	h_{max}	0.15	0.12	0.10	0.10	0.08	0.08
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
	TN.1604.018.02 SKY77	TNAX 160432 TR-25	h_{max}	0.15	0.12	0.10	0.10	0.08	0.08
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
	TN.1604.018.03 SKY77	TNAX 160441 TR-25	h_{max}	0.15	0.12	0.10	0.10	0.08	0.08
			v_c	340-380	280-340	240-280	210-240	180-210	140-180

INS SHAPE TC | TN



Matching of machining parameters with the AV material groups

				NF metals		
Article		Designation		E82	E81	E80
TC..1103..	TC.1103.030.06 SKY77	TCAX 110316 TR-25	h_{max}	0.15	0.12	0.10
			v_c	650-1000	450-650	280-450
	TC.1103.030.05 SKY77	TCAX 110318 TR-25	h_{max}	0.15	0.12	0.10
			v_c	650-1000	450-650	280-450
	TC.1103.030.04 SKY77	TCAX 110321 TR-25	h_{max}	0.15	0.12	0.10
			v_c	650-1000	450-650	280-450
	TC.1103.030.03 SKY77	TCAX 110326 TR-25	h_{max}	0.15	0.12	0.10
			v_c	650-1000	450-650	280-450
TN..1604..	TN.1604.018.01 SKY77	TNAX 160426 TR-25	h_{max}	0.18	0.15	0.11
			v_c	650-1000	450-650	280-450
	TN.1604.018.02 SKY77	TNAX 160432 TR-25	h_{max}	0.18	0.15	0.11
			v_c	650-1000	450-650	280-450
	TN.1604.018.03 SKY77	TNAX 160441 TR-25	h_{max}	0.18	0.15	0.11
			v_c	650-1000	450-650	280-450

INS		
TC..1103...	08B.2506.7991	TX208
TN..1604...	08B.0375.7991	TX208

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