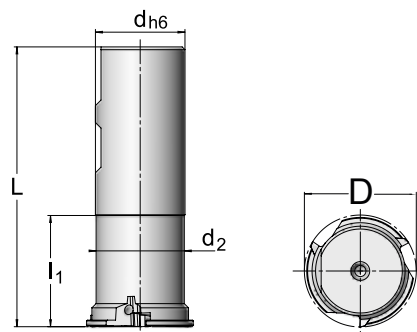


# CIRCULAR MILLING CUTTERS

## TZ18

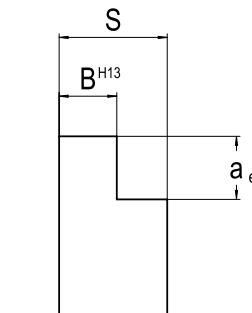


Standard for all circlip grooves  
 Three-side embedding of the circular indexable insert  
 Ideal for groove bottom machining

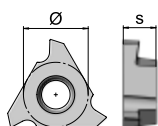


TZ18 Shank end mills										
Article	D	d <sub>2</sub>	d <sub>h6</sub>	L	l <sub>1</sub>	z <sub>eff</sub>	a <sub>e</sub>	lc	kg	INS
13T.2510.001	25	20.5	25	100	40	3	1.4 - 2.2	yes	0.31	TC..1103.R
13T.4011.001	40	31.5	32	100	39	3	2.2 - 3.2	yes	0.61	TN..1604.R

Data INS				
Article	D	s	B <sup>H13</sup>	a <sub>e</sub>
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



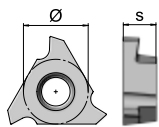
TC   TN					
AS	Ø		s		
3	11	16	03	04	
	6.35	9.52	3.2	4.76	

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



		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

				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