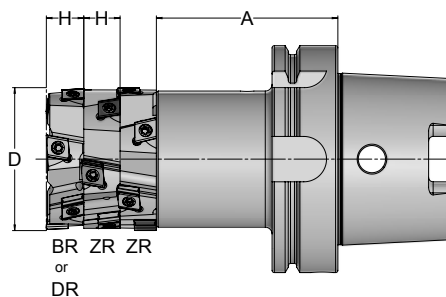


# MULTIRING FM90



Modular disc design  
 Custom cutting lengths up to 2.5 x D  
 Multi-tooth design thanks to fine tooth pitch



## Tool holders FM90

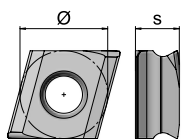
D	SK50 DIN69871	A	kg	SK40 DIN69871	A	kg	HSK-A63	A	kg	HSK-A100	A	kg
45/50	09A.5045.001	39	2.82	09A.4045.001	39	1	09E.6345.1060	60	1.02	09E.1045.001	85	3.30
45/50	09A.5045.016	90	3.37	09A.4045.007	90	1.54	-	-	-	-	-	-
66	09A.5063.008	49	3.21	-	-	-	09E.6363.1060	60	1.28	09E.1063.1080	80	3.11
66	09A.5063.031	100	4.30	-	-	-	-	-	-	-	-	-
66	09A.5063.021	150	5.36	-	-	-	-	-	-	-	-	-
92	09A.5092.001	49	3.68	-	-	-	-	-	-	09E.1092.001	80	4.27

## Intermediate rings ZR | bottom rings BR | double cutting rings DR FM90

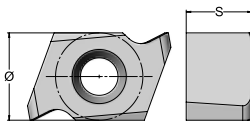
D	ZR Article	H	Z <sub>eff</sub>	BR Article	H	Z <sub>eff</sub>	INS Article	Qty.	DR Article	H	Z <sub>eff</sub>	INS Article	Qty.	Weight per ring in kg
45	12F.4513.021	13	3	12F.4513.022	13.5	3	FNHQ08T300.R FNHQ08T306.L	3 3	-	-	-	-	-	< 0.5
50	12F.5015.021	14.2	3	12F.5015.022	15.5	3	FNHQ08T300.R FNHQ08T306.L	3 3	12F.5015.024	15	3	MOGU100308.R FNHQ08T300.R	3 3	< 0.5
66	12F.6619.031	19.5	3	12F.6620.032	20	3	FNHQ110608.R FNHQ110608.L	3 3	-	-	-	-	-	< 0.5
92	12F.9218.003	18.5	4	12F.9220.004	20	4	FNHQ110608.R FNHQ110608.L	4 4	12F.9225.001	25	4	FNHQ110608.R FNHQ110608.L LNHX250825.R	4 4 4	< 1.0

Other dimensions upon request

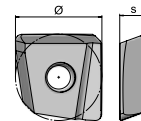
# INS SHAPE FN | LN | MO



FN				
AS	Ø		s	
4	08	11	T3	06
	8	11	3.97	6.35



LN		
AS	Ø	s
2	25	08
	12.7	8



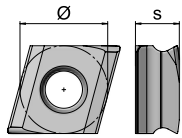
MO		
AS	Ø	s
2	10	03
	10	3.6

Matching of machining parameters  
with the AV material groups

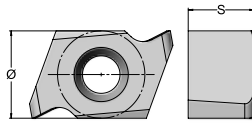
	Article	Designation	Recomm. $a_e$ $0.2 \times D$	Steel						
				A22	A21	A20	A19	A18	A17	A16
FN..08T3..	FN.08T3.004.09 SKY77	FNHQ 08T306 SL-28V	$h_{max}$	0.17	0.17	0.17	0.15	0.14	0.12	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	110-140	–
	FN.08T3.005.10 SKY77	FNHQ 08T300 SR-28V	$h_{max}$	0.17	0.17	0.17	0.15	0.14	0.12	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	110-140	–
FN..1106..	FN.1106.018.01 SKY77	FNHQ 110608 TL-25V	$h_{max}$	0.18	0.18	0.18	0.16	0.15	–	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	–	–
	FN.1106.018.02 SKY77	FNHQ 110608 TL-28V	$h_{max}$	0.16	0.16	0.16	0.14	0.13	0.10	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	110-140	–
	FN.1106.019.01 SKY77	FNHQ 110608 TR-25V	$h_{max}$	0.18	0.18	0.18	0.16	0.15	–	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	–	–
	FN.1106.019.02 SKY77	FNHQ 110608 TR-28V	$h_{max}$	0.16	0.16	0.16	0.14	0.13	0.10	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	110-140	–
LN..2508..	LN.2508.002.01 SKY77	LNHX 250825 TR-25	$h_{max}$	0.18	0.18	0.18	0.16	0.15	–	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	–	–
MO..1003..	MO.1003.031.04 SKY77	MOGU 100310 TR-28	$h_{max}$	0.17	0.17	0.17	0.15	0.14	0.12	–
			$v_c$	200-280	190-230	180-220	160-210	140-180	110-140	–

Parameters vibration-/surface-dependent

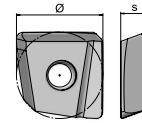
# INS SHAPE FN | LN | MO



FN				
AS	Ø		s	
4	08	11	T3	06
	8	11	3.97	6.35



LN		
AS	Ø	s
2	25	08
	12.7	8





MO		
AS	Ø	s
2	10	03
	10	3.6

Matching of machining parameters with the AV material groups

Article	Designation	Recomm. $a_e$ 0.2 x D	Cast iron					
			D21	D20	D19	D18	D17	D16
FN..08T3..	FN.08T3.004.09 SKY77 FNHQ 08T306 SL-28V	$h_{max}$	0.18	0.18	0.16	0.14	0.11	0.10
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
	FN.08T3.004.09 NERO26 FNHQ 08T306 SL-28V	$h_{max}$	0.18	0.18	0.16	0.14	0.11	0.10
		$v_c$	240-300	240-300	220-260	200-240	180-210	140-180
FN..08T3..	FN.08T3.005.10 SKY77 FNHQ 08T300 SR-28V	$h_{max}$	0.18	0.18	0.16	0.14	0.11	0.10
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
	FN.08T3.005.10 NERO26 FNHQ 08T300 SR-28V	$h_{max}$	0.18	0.18	0.16	0.14	0.11	0.10
		$v_c$	240-300	240-300	220-260	200-240	180-210	140-180
FN..1106..	FN.1106.018.01 SKY77 FNHQ 110608 TL-25V	$h_{max}$	0.19	0.19	0.17	0.15	0.12	0.11
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
	FN.1106.018.02 SKY77 FNHQ 110608 TL-28V	$h_{max}$	0.17	0.17	0.15	0.13	0.10	0.10
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
	FN.1106.019.01 SKY77 FNHQ 110608 TR-25V	$h_{max}$	0.19	0.19	0.17	0.15	0.12	0.11
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
	FN.1106.019.02 SKY77 FNHQ 110608 TR-28V	$h_{max}$	0.17	0.17	0.15	0.13	0.10	0.10
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
LN..2508..	LN.2508.002.01 SKY77 LNHX 250825 TR-25	$h_{max}$	0.19	0.19	0.17	0.15	0.12	0.11
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180
MO..1003..	MO.1003.031.04 SKY77 MOGU 100310 TR-28	$h_{max}$	0.18	0.18	0.16	0.14	0.11	0.10
		$v_c$	200-280	200-260	180-230	170-210	160-190	140-180

Parameters vibration-/surface-dependent

INS		
FN..08T3...	08B.0309.7991	TX208
FN..1106...	08B.3511.7991	TX215
LN..2508...	08B.0513.7991	TX220
MO..1003...	08B.0375.001	TX208