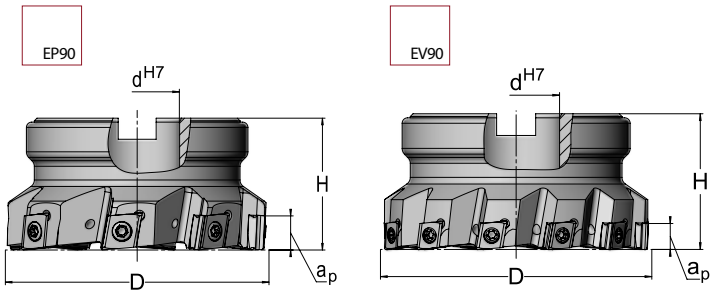
SHOULDER MILLING CUTTERS
EP90 | EV90

Maximum break resistance through tangential mounting of the 4-cutting edge EN indexable insert
High combined feed per tooth and depths of cut
EV90: Fine tooth pitch is an advantage in cast iron machining processes



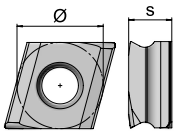
EP90
Plug-in milling cutters

Article	D	d^{H7}	H	z_{eff}	a_p	Ic	kg	INS
04E.0432.001	40	16	32	5	7.5	yes	0.18	EN..08T3.L
04E.0536.001	50	22	36	5	9.0	yes	0.31	EN..0904.L
04E.0640.005	63	22	40	5	12.0	yes	0.52	EN..1206.L
04E.0850.001	80	27	50	7	12.0	yes	1.06	EN..1206.L
04E.1050.001	100	32	50	8	12.0	yes	1.76	EN..1206.L
04E.1263.001	125	40	63	10	12.0	yes	3.13	EN..1206.L

EV90
Plug-in milling cutters

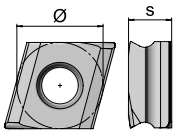
Article	D	d^{H7}	H	z_{eff}	a_p	Ic	kg	INS
04E.0432.002	40	16	32	6	7.5	yes	0.20	EN..08T3.L
04E.0536.004	50	22	36	7	7.5	yes	0.32	EN..08T3.L
04E.0640.001	63	22	40	7	9.0	yes	0.54	EN..0904.L
04E.0640.006	63	22	40	9	7.5	yes	0.57	EN..08T3.L
04E.0850.004	80	27	50	10	9.0	yes	1.09	EN..0904.L
04E.0850.016	80	27	50	12	7.5	yes	1.12	EN..08T3.L
04E.1050.003	100	32	50	12	9.0	yes	1.77	EN..0904.L
04E.1050.004	100	32	50	12	12.0	yes	1.82	EN..1206.L
04E.1263.003	125	40	63	13	9.0	yes	3.16	EN..0904.L
04E.1263.007	125	40	63	15	12.0	yes	3.16	EN..1206.L

INS SHAPE **EN**



EN*

AS	Ø			s		
1	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35



EN

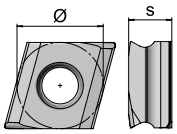
AS	Ø			s		
4	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35

Matching of machining parameters with the AV material groups

	Article	Designation		Steel						
				A22	A21	A20	A19	A18	A17	A16
EN..08T3..	EN.08T3.012.09 SKY77	ENHQ 08T306 SL-28W	h_{max}	0.15	0.15	0.13	0.12	0.11	0.10	0.08
			v_c	280-320	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	0.13	0.12	0.11	0.10	0.08
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	EN.08T3.001.54 SKY77	ENHQ 08T306 SL-30	h_{max}	–	–	–	0.11	0.10	0.08	0.08
			v_c	–	–	–	180-210	140-180	110-140	80-110
	EN.08T3.031.01 SKY77*	ENFQ 08T306 FL-33S*	h_{max}	0.15	0.15	0.13	0.12	0.11	0.10	0.08
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
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	280-320	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	280-320	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	0.11	0.10	0.08
			v_c	–	–	–	180-210	140-180	110-140	80-110
	EN.0904.033.02 SKY77*	ENFQ 090408 EL-33S*	h_{max}	0.18	0.18	0.15	0.15	0.12	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
EN..1206..	EN.1206.027.18 SKY77	ENHQ 120610 SL-25V	h_{max}	0.23	0.22	0.20	0.20	–	–	–
			v_c	280-320	240-280	210-240	180-210	–	–	–
	EN.1206.029.13 SKY77	ENHQ 120610 SL-28W	h_{max}	0.21	0.21	0.18	0.16	0.14	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	EN.1206.003.52 SKY77	ENHQ 120610 SL-28	h_{max}	0.21	0.21	0.18	0.16	0.14	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	EN.1206.003.54 SKY77	ENHQ 120610 SL-30	h_{max}	0.18	0.18	0.17	0.14	0.12	0.11	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	EN.1206.035.01 SKY77*	ENFQ 120610 EL-33S*	h_{max}	0.21	0.21	0.18	0.16	0.14	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110

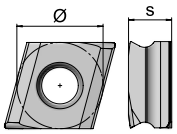
* Only one indexable wiper insert ENFQ required per tool. Only in combination with geometry -28W. The height changes.

INS SHAPE **EN**



EN*

AS	Ø			s		
1	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35



EN

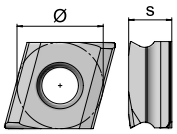
AS	Ø			s		
4	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35

Matching of machining parameters with the AV material groups

	Article	Designation		Cast iron					
				D21	D20	D19	D18	D17	D16
EN..08T3..	EN.08T3.012.09 SKY77	ENHQ 08T306 SL-28W	h_{max}	0.15	0.14	0.13	0.12	0.10	0.08
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.08T3.012.09 NERO26	ENHQ 08T306 SL-28W	h_{max}	0.15	0.14	0.13	0.12	0.10	0.08
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
	EN.08T3.017.26 SKY77	ENHQ 08T306 SL-28V	h_{max}	0.15	0.14	0.13	0.12	0.10	0.08
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.08T3.017.26 NERO26	ENHQ 08T306 SL-28V	h_{max}	0.15	0.14	0.13	0.12	0.10	0.08
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
	EN.08T3.031.01 SKY77*	ENFQ 08T306 FL-33S*	h_{max}	0.15	0.14	0.13	0.12	0.10	0.08
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.08T3.031.01 NERO26*	ENFQ 08T306 FL-33S*	h_{max}	0.15	0.14	0.13	0.12	0.10	0.08
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
EN..0904..	EN.0904.023.12 SKY77	ENHQ 090408 SL-28W	h_{max}	0.18	0.17	0.15	0.12	0.11	0.10
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.0904.023.12 NERO26	ENHQ 090408 SL-28W	h_{max}	0.18	0.17	0.15	0.12	0.11	0.10
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
	EN.0904.017.26 SKY77	ENHQ 090408 SL-28V	h_{max}	0.18	0.18	0.15	0.12	0.11	0.10
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.0904.017.26 NERO26	ENHQ 090408 SL-28V	h_{max}	0.18	0.17	0.15	0.12	0.11	0.10
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
	EN.0904.033.02 SKY77*	ENFQ 090408 EL-33S*	h_{max}	0.18	0.17	0.15	0.12	0.11	0.10
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
EN..1206..	EN.1206.027.18 SKY77	ENHQ 120610 SL-25V	h_{max}	0.26	0.26	0.23	0.20	0.16	0.13
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.1206.027.18 NERO26	ENHQ 120610 SL-25V	h_{max}	0.26	0.26	0.23	0.20	0.16	0.13
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
	EN.1206.027.18 CAN^{2}77	ENHQ 120610 SL-25V	h_{max}	0.26	0.26	0.23	0.20	0.16	0.13
			v_c	320-380	280-340	240-280	210-240	180-210	140-180
	EN.1206.029.13 SKY77	ENHQ 120610 SL-28W	h_{max}	0.24	0.23	0.22	0.17	0.15	0.12
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.1206.029.13 NERO26	ENHQ 120610 SL-28W	h_{max}	0.24	0.23	0.22	0.17	0.15	0.12
			v_c	300-350	280-320	220-280	190-230	130-190	120-150
	EN.1206.003.52 SKY77	ENHQ 120610 SL-28	h_{max}	0.24	0.23	0.22	0.17	0.15	0.12
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	EN.1206.035.01 SKY77*	ENFQ 120610 EL-33S*	h_{max}	0.24	0.23	0.22	0.17	0.15	0.12
			v_c	240-280	200-240	170-200	150-190	120-160	120-150

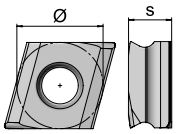
* Only one indexable wiper insert ENFQ required per tool. Only in combination with geometry -28W. The height changes.

INS SHAPE **EN**



EN*

AS	Ø			s		
1	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35



EN

AS	Ø			s		
4	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35

Matching of machining parameters with the AV material groups

	Article	Designation		NF metals		
				E82	E81	E80
EN..08T3..	EN.08T3.017.26 SKY77	ENHQ 08T306 SL-28V	h_{max}	0.20	0.18	0.15
			v_c	650-1000	450-650	280-450
	EN.08T3.001.54 SKY77	ENHQ 08T306 SL-30	h_{max}	0.17	0.15	0.12
			v_c	650-1000	450-650	280-450
	EN.08T3.031.01 SKY77*	ENFQ 08T306 FL-33S*	h_{max}	0.20	0.18	0.15
			v_c	650-1000	450-650	280-450
EN..0904..	EN.0904.017.26 SKY77	ENHQ 090408 SL-28V	h_{max}	0.22	0.20	0.16
			v_c	650-1000	450-650	280-450
	EN.0904.003.54 SKY77	ENHQ 090408 SL-30	h_{max}	0.20	0.18	0.15
			v_c	650-1000	450-650	280-450
	EN.0904.033.02 SKY77*	ENFQ 090408 EL-33S*	h_{max}	0.22	0.20	0.16
			v_c	650-1000	450-650	280-450
EN..1206..	EN.1206.003.52 SKY77	ENHQ 120610 SL-28	h_{max}	0.28	0.25	0.20
			v_c	650-1000	450-650	280-450
	EN.1206.003.54 SKY77	ENHQ 120610 SL-30	h_{max}	0.26	0.24	0.18
			v_c	650-1000	450-650	280-450
	EN.1206.035.01 SKY77*	ENFQ 120610 EL-33S*	h_{max}	0.28	0.25	0.20
			v_c	650-1000	450-650	280-450

* Only one indexable wiper insert ENFQ required per tool. Only in combination with geometry -28W. The height changes.

INS		
EN..08T3...	08B.0309.7991	TX208
EN..0904...	08B.3509.7991	TX215
EN..1206...	08B.0513.7991	TX220