

CP90
CV90

EP90
EV90

HC90

LN90

CS90



Shoulder milling cutters with tangentially installed inserts are more break resistant and deliver outstanding cast iron machining results thanks to fine tooth pitches. The high feed and depth of cut in roughing are also achieved when machining materials such as stainless and titanium; the surface quality is excellent. Optimum stability for high precision and maximum Q. Also with DIN-type screw-in connection.

High positive stability
at 90°

SHOULDER MILLING CUTTERS SHANK END MILLS

SHOULDER MILLING CUTTERS

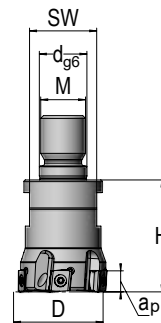
CP90 | CV90



NEWTool

The versions with \varnothing 25–40 mm are optimal for powerful milling on live tooling lathes and machining centers with rather low rigidity and drive power

DIN tool holders with standard adaptation shank and spindle connection for HSK, Capto and SK



CV90 Screw-in milling cutters										
Article	D	dg6	H	M	SW	z _{eff}	a _p	lc	kg	INS
04C.0232.001	25	12.5	32	12	17	4	7.5	yes	0.11	CN..07T3L
04C.0340.002	32	17	40	16	24	5	7.5	yes	0.22	CN..07T3L
04C.0440.001	40	17	40	16	24	7	7.5	yes	0.28	CN..07T3L

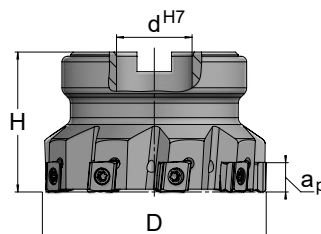
SHOULDER MILLING CUTTERS

CP90 | CV90



NEWTool

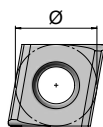
Maximum break resistance through tangential mounting of the 4-cutting edge CN indexable insert
High combined feed per tooth and depths of cut
CV90: Fine tooth pitch is an advantage in cast iron machining processes



CP90 Plug-in milling cutters								INS
Article	D	d ^{H7}	H	z ^{eff}	a _p	lc	kg	
04C.0540.001	50	22	40	5	10.0	yes	0.35	CN..1005L
04C.0640.001	63	22	40	6	10.0	yes	0.54	CN..1005L
04C.0850.001	80	27	50	8	10.0	yes	1.10	CN..1005L
04C.1050.001	100	32	50	9	10.0	yes	1.77	CN..1005L
04C.1263.002	125	40	63	13	10.0	yes	3.30	CN..1005L

CV90 Plug-in milling cutters								INS
Article	D	d ^{H7}	H	z ^{eff}	a _p	lc	kg	
04C.0332.001	32	22	32	5	7.5	yes	0.12	CN..07T3L
04C.0432.004	40	16	32	7	7.5	yes	0.19	CN..07T3L
04C.0540.002	50	22	40	8	7.5	yes	0.36	CN..07T3L
04C.0640.002	63	22	40	7	10.0	yes	0.56	CN..1005L
04C.0850.002	80	27	50	9	10.0	yes	1.09	CN..1005L
04C.1050.002	100	32	50	12	10.0	yes	1.81	CN..1005L
04C.1263.001	125	40	63	16	10.0	yes	3.36	CN..1005L

INS SHAPE CN



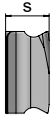
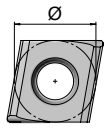
CN					
AS	Ø		s		
4	07	10	T3	05	
	7.5	10.4	4	5.6	

Matching of machining parameters
with the AV material groups

				Steel						
Article		Designation		A22	A21	A20	A19	A18	A17	A16
CN..07T3..	CN.07T3.008.11 SKY77	CNHQ 07T306 SL-28W	h_{max}	0.16	0.16	0.15	0.13	0.12	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
CN..07T3..	CN.07T3.008.11 AV1055	CNHQ 07T306 SL-28W	h_{max}	-	-	-	-	-	0.12	0.10
			v_c	-	-	-	-	-	110-140	80-110
CN..1005..	CN.1005.002.01 SKY77	CNHQ 100510 SL-25V	h_{max}	0.24	0.22	0.20	0.20	-	-	-
			v_c	280-320	240-280	210-240	180-210	-	-	-
	CN.1005.002.02 SKY77	CNHQ 100510 SL-28V	h_{max}	0.24	0.22	0.20	0.18	0.16	0.14	0.11
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	CN.1005.002.02 AV1077	CNHQ 100510 SL-28V	h_{max}	-	-	0.20	0.18	0.16	0.14	0.11
			v_c	-	-	210-240	180-210	140-180	110-140	80-110

				Cast iron					
Article		Designation		D21	D20	D19	D18	D17	D16
CN..07T3..	CN.07T3.008.11 SKY77	CNHQ 07T306 SL-28W	h_{max}	0.17	0.15	0.14	0.12	0.12	0.12
			v_c	290-320	260-295	230-270	210-240	180-210	140-180
CN..07T3..	CN.07T3.008.11 NERO ² 77	CNHQ 07T306 SL-28W	h_{max}	0.17	0.15	0.14	0.12	0.12	0.12
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
CN..1005..	CN.1005.002.01 SKY77	CNHQ 100510 SL-25V	h_{max}	0.28	0.26	0.22	0.20	0.17	0.15
			v_c	290-320	260-295	230-270	210-240	180-210	140-180
	CN.1005.002.01 CAN ² 77	CNHQ 100510 SL-25V	h_{max}	0.28	0.26	0.22	0.20	0.17	0.15
			v_c	340-380	280-340	240-280	210-240	180-210	140-180
	CN.1005.002.02 SKY77	CNHQ 100510 SL-28V	h_{max}	-	-	0.20	0.18	0.16	0.13
			v_c	-	-	230-270	210-240	180-210	140-180



INS SHAPE CN



CN				
AS	Ø		s	
4	07	10	T3	05
	7.5	10.4	4	5.6

Matching of machining parameters
with the AV material groups

Article	Designation		Stainless steels				NF metals			
			C12	C11	C10	C09	E82	E81	E80	
CN..07T3..	CN.07T3.008.11 SKY77	CNHQ 07T306 SL-28W	h_{max}	0.11	0.10	-	-	0.20	0.21	0.16
			v_c	150-220	120-170	-	-	650-1000	450-650	280-450
	CN.07T3.008.11 AV1055	CNHQ 07T306 SL-28W	h_{max}	0.11	0.10	0.08	0.08	-	-	-
			v_c	150-220	140-170	90-120	60-100	-	-	-
CN..1005..	CN.1005.002.02 SKY77	CNHQ 100510 SL-28V	h_{max}	-	-	-	-	0.25	0.25	0.20
			v_c	-	-	-	-	650-1000	450-650	280-450
	CN.1005.002.02 AV1077	CNHQ 100510 SL-28V	h_{max}	0.11	-	-	-	-	-	-
			v_c	150-220	-	-	-	-	-	-

INS		
CN..07T3...	08B.0309.7991	TX208
CN..1005...	08B.3511.7991	TX215

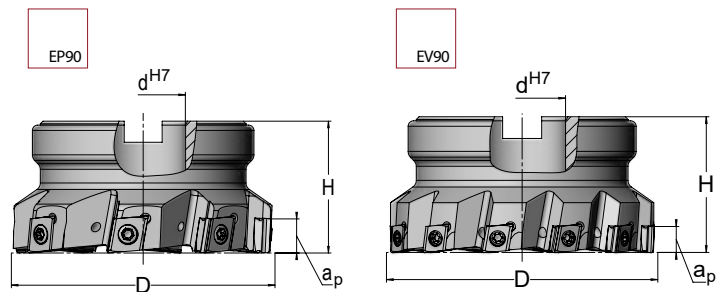
Mounting | CN/EN/FN
indexable insert page 138

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	lc	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	lc	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

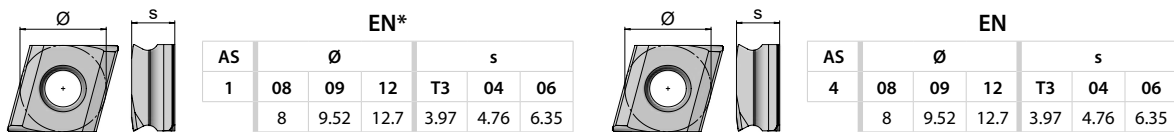
EN*		EN											
AS	Ø			s			AS	Ø			s		
1	08	09	12	T3	04	06	4	08	09	12	T3	04	06
	8	9.52	12.7	3.97	4.76	6.35		8	9.52	12.7	3.97	4.76	6.35

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	0.13	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



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	0.14	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*								EN					
		Ø		s						Ø		s			
AS		08	09	12	T3	04	06	AS		08	09	12	T3	04	06
1		8	9.52	12.7	3.97	4.76	6.35	4		8	9.52	12.7	3.97	4.76	6.35

Matching of machining parameters
with the AV material groups

				NF metals		
Article		Designation		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

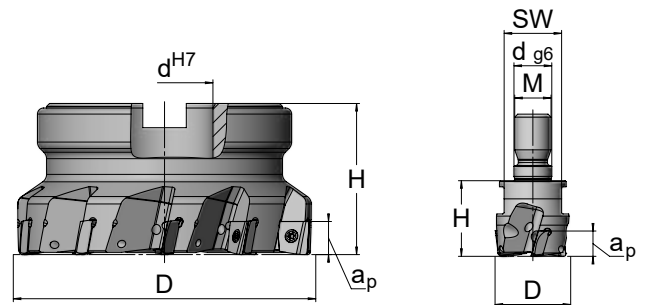
Mounting | CN/EN/FN
indexable insert page 138

SHOULDER MILLING CUTTERS

HC90



Highly compatible with materials that are difficult to machine, such as stainless and titanium
 High feed per tooth and depths of cut in 90°-machining
 The new screw-in versions with Ø 25–40 mm are optimal for powerful milling on live tooling lathes and machining centers with rather low rigidity and drive power



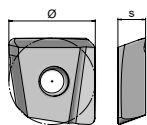
HC90 Screw-in milling cutters

Article	D	dg6	H	M	SW	z _{eff}	a _p	Ramp	Ic	kg	INS
04M.0225.151	25	12.5	25	12	19	3	8.0	–	yes	0.10	MO..1003.R
04M.0325.151	32	17	25	16	27	4	8.0	–	yes	0.14	MO..1003.R
04M.0430.151	40	17	30	16	27	5	8.0	–	yes	0.22	MO..1003.R

HC90 Plug-in milling cutters

Article	D	d ^{H7}	H	z _{eff}	a _p	Ramp	Ic	kg	INS
04M.0432.150	40	16	32	5	8.0	1.0°	yes	0.16	MO..1003.R
04M.0540.150	50	22	40	6	8.0	0.8°	yes	0.32	MO..1003.R
04M.0540.080	50	22	40	6	10.0	1.1°	yes	0.32	MO..12T3.R
04M.0640.080	63	22	40	7	10.0	0.8°	yes	0.50	MO..12T3.R
04M.0850.080	80	27	50	9	10.0	0.6°	yes	1.03	MO..12T3.R
04M.1050.080	100	32	50	10	10.0	0.5°	yes	1.70	MO..12T3.R

INS SHAPE MO



MO				
AS	Ø		s	
2	10	12	03	T3
	10	12.7	4	3.6

Matching of machining parameters
with the AV material groups

				Steel						
Article		Designation		A22	A21	A20	A19	A18	A17	A16
MO..1003..	MO.1003.031.04 SKY77	MOGU 100310 TR-28	h_{max}	0.18	0.16	0.15	0.13	0.12	0.11	0.08
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	MO.1003.031.04 AV1077	MOGU 100310 TR-28	h_{max}	-	-	-	-	0.12	0.11	0.08
			v_c	-	-	-	-	140-180	110-140	80-110
MO..12T3..	MO.12T3.081.01 SKY77	MOGU 12T310 TR-28	h_{max}	0.23	0.22	0.20	0.18	0.15	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	MO.12T3.081.01 AV1077	MOGU 12T310 TR-28	h_{max}	-	-	-	-	0.15	0.12	0.10
			v_c	-	-	-	-	140-180	110-140	80-110

				Cast iron					
Article		Designation		D21	D20	D19	D18	D17	D16
MO..1003..	MO.1003.031.04 SKY77	MOGU 100310 TR-28	h_{max}	0.20	0.18	0.16	0.14	0.12	0.10
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
MO..12T3..	MO.12T3.081.01 SKY77	MOGU 12T310 TR-28	h_{max}	0.25	0.23	0.20	0.18	0.15	0.12
			v_c	240-280	200-240	170-200	150-190	120-160	120-150

				Stainless steels				NF metals		
Article		Designation		C12	C11	C10	C09	E82	E81	E80
MO..1003..	MO.1003.031.04 SKY77	MOGU 100310 TR-28	h_{max}	0.10	0.10	-	-	0.25	0.21	0.17
			v_c	120-200	100-150	-	-	650-1000	450-650	280-450
	MO.1003.031.04 AV1077	MOGU 100310 TR-28	h_{max}	0.10	0.10	-	-	-	-	-
			v_c	120-220	100-170	-	-	-	-	-
MO..12T3..	MO.12T3.081.01 SKY77	MOGU 12T310 TR-28	h_{max}	0.13	0.11	-	-	0.28	0.23	0.18
			v_c	120-200	100-150	-	-	650-1000	450-650	280-450
	MO.12T3.081.01 AV1077	MOGU 12T310 TR-28	h_{max}	0.13	0.11	-	-	-	-	-
			v_c	120-220	100-170	-	-	-	-	-

INS		
MO..1003...	08B.0309.001	TX208
MO..12T3...	08B.0309.001	TX208

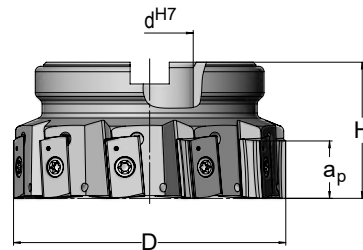
Technical information ramp page 144

SHOULDER MILLING CUTTERS

LN90



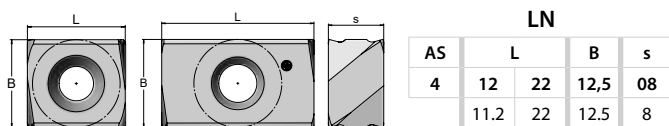
With insert sizes for extremely high depths of cut in 90° machining
 Enormous stability due to sturdy cutting wedge
 Achieves excellent roughing and finishing surface quality



LN90 Plug-in milling cutters								INS
Article	D	d ^{H7}	H	z ^{eff}	a _p	lc	kg	
04L.0550.003	50	22	50	5	20.0	yes	0.52	LN..2208..L
04L.0540.030	50	22	40	6	10.0	yes	0.37	LN..1208..L*
04L.0650.005	63	22	50	6	20.0	yes	0.84	LN..2208..L
04L.0640.030	63	22	40	7	10.0	yes	0.57	LN..1208..L*
04L.0850.005	80	27	50	8	20.0	yes	1.33	LN..2208..L
04L.0850.030	80	27	50	10	10.0	yes	1.11	LN..1208..L
04L.1050.005	100	32	50	10	20.0	yes	2.05	LN..2208..L
04L.1050.030	100	32	50	12	10.0	yes	1.82	LN..1208..L
04L.1263.005	125	40	63	13	20.0	yes	3.54	LN..2208..L
04L.1263.030	125	40	63	15	10.0	yes	3.43	LN..1208..L
04L.1663.030	160	40	63	18	10.0	yes	4.55	LN..1208..L

* Note that the screw length required varies depending on the insert used

INS SHAPE LN



Matching of machining parameters
with the AV material groups

				Steel						
	Article	Designation		A22	A21	A20	A19	A18	A17	A16
LN..1208..	LN.1208.002.01 SKY77	LNHQ 120810 TL-28S	h_{max}	0.23	0.20	0.18	-	-	-	-
			v_c	280-320	220-280	180-230	-	-	-	-
LN..2208..	LN.2208.003.01 SKY77	LNHQ 220805 SL-28	h_{max}	0.23	0.20	0.18	-	-	-	-
			v_c	280-320	220-280	180-230	-	-	-	-

				Cast iron					
	Article	Designation		D21	D20	D19	D18	D17	D16
LN..1208..	LN.1208.002.01 SKY77	LNHQ 120810 TL-28S	h_{max}	0.28	0.26	0.22	0.20	0.16	0.12
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	LN.1208.002.01 CAN ² 77	LNHQ 120810 TL-28S	h_{max}	0.28	0.26	0.22	0.20	0.16	0.12
			v_c	300-380	270-320	230-280	170-220	150-200	120-150
LN..2208..	LN.2208.003.01 SKY77	LNHQ 220805 SL-28	h_{max}	0.28	0.26	0.22	0.20	0.16	0.12
			v_c	240-280	200-240	170-200	150-190	120-160	120-150
	LN.2208.003.01 CAN ² 77	LNHQ 220805 SL-28	h_{max}	0.28	0.26	0.22	0.20	0.16	0.12
			v_c	300-380	270-320	230-280	170-220	150-200	120-150

INS		
LN..1208...	08B.0416.7991	TX215
LN..1208...*	08B.0412.7991	TX215
LN..2208...	08B.0513.7991	TX220

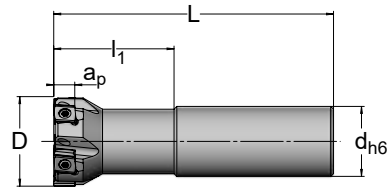
* Note that the screw length required varies depending on the insert used

SHANK END MILLS

CS90

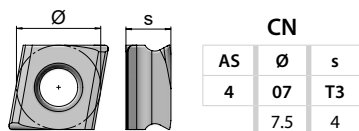


Maximum break resistance through tangential mounting of the 4-cutting edge CN indexable insert, even in small indexable inserts
 High combined feed per tooth and depths of cut
 Fine tooth pitch is an advantage in cast iron machining processes



CS90 Shank end mills									INS
Article	D	dh6	L	l ₁	z _{eff}	a _p	lc	kg	
11C.2509.001	25	25	90	31.5	4	7	yes	0.30	CN..07T3..L
11C.3210.001	32	25	100	43	5	7	yes	0.37	CN..07T3..L
11C.4011.001	40	32	110	48.5	6	7	yes	0.67	CN..07T3..L

INS SHAPE CN



Matching of machining parameters
with the AV material groups

				Steel						
Article		Designation		A22	A21	A20	A19	A18	A17	A16
CN..07T3..	CN.07T3.008.11 SKY77	CNHQ 07T306 SL-28W	h_{max}	0.16	0.16	0.15	0.13	0.12	0.12	0.10
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
	CN.07T3.008.11 AV1055	CNHQ 07T306 SL-28W	h_{max}	–	–	–	–	–	0.12	0.10
			v_c	–	–	–	–	–	110-140	80-110

				Cast iron					
Article		Designation		D21	D20	D19	D18	D17	D16
CN..07T3..	CN.07T3.008.11 SKY77	CNHQ 07T306 SL-28W	h_{max}	0.17	0.15	0.14	0.12	0.12	0.12
			v_c	290-320	260-295	230-270	210-240	180-210	140-180
	CN.07T3.008.11 NERO ² 77	CNHQ 07T306 SL-28W	h_{max}	0.17	0.15	0.14	0.12	0.12	0.12
			v_c	340-380	280-340	240-280	210-240	180-210	140-180

				Stainless steels				NF metals		
Article		Designation		C12	C11	C10	C09	E82	E81	E80
CN..07T3..	CN.07T3.008.11 SKY77	CNHQ 07T306 SL-28W	h_{max}	0.11	0.10	–	–	0.22	0.21	0.16
			v_c	150-220	120-170	–	–	650-1000	450-650	280-450
	CN.07T3.008.11 AV1055	CNHQ 07T306 SL-28W	h_{max}	0.11	0.10	0.08	0.08	–	–	–
			v_c	150-220	120-170	90-120	60-100	–	–	–

INS		
CN..07T...	08B.0309.7991	TX208

Mounting | CN/EN/FN
indexable insert page 138