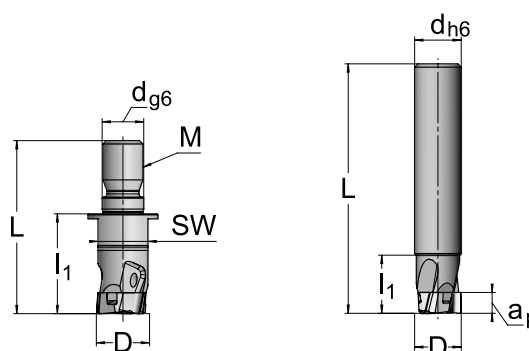


SHOULDER MILLING CUTTERS

TS90



Alternative to carbide shank end milling cutters in combination with small depths of cut
 Utmost change accuracy
 Form and force locking cross and/or star drive keys
 Ensures maximum smooth cutting

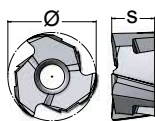


TS90 Smooth shank tool holders							INS
Article	D	dg6	L	l1	lc	kg	
20G.14.1412.01	14	14	75	18	no	0.10	ECE1406.R
20G.14.1432.01	14	14	93.1	36	yes	0.10	ECE1406.R
20G.16.1612.01	16	16	82	22	no	0.12	ECE1606.R
20G.16.1632.01	16	16	104.1	44	yes	0.14	ECE1606.R
20G.18.1813.01	18	18	84	23	yes	0.15	ECE1808.R
20G.18.1833.01	18	18	108	47	yes	0.20	ECE1808.R
20G.20.2013.01	20	20	92	26	yes	0.20	ECE2008.R
20G.20.2033.01	20	20	118	52	yes	0.26	ECE2008.R

TS90 Screw-in tool holders									INS
Article	D	dg6	L	l1	M	SW	lc	kg	
20K.12.1312.01	14	12.5	30	19	12	15	yes	0.10	ECE1406.R
20K.12.1512.01	16	12.5	30	19	12	15	yes	0.12	ECE1606.R
20K.12.1713.01	18	12.5	30	21	12	15	yes	0.15	ECE1808.R
20K.12.1913.02	20	12.5	30	21	12	17	yes	0.20	ECE2008.R

Data Interchangeable heads ECE				
Article	D	Z _{eff}	a _p	Weight in g
EC.E1406.32.01 SKY77	14	3	6.0	5.9
EC.E1606.32.01 SKY77	16	3	6.0	7.9
EC.E1808.33.01 SKY77	18	3	8.0	10.9
EC.E2008.33.01 SKY77	20	3	8.0	13.6

INTERCHANGEABLE HEADS **EC**



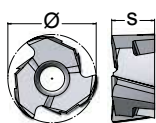
ECE						
AS	Ø				s	
3	14	16	18	20	06	08
	14	16	18	20	6	8

Matching of machining parameters
with the AV material groups

				Steel						
Article		Designation		A22	A21	A20	A19	A18	A17	A16
ECE1406..	EC.E1406.32.01 SKY77	ECE 140606 TR-25	h_{max}	0.15	0.15	0.12	0.12	0.10	0.10	0.08
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
ECE1606..	EC.E1606.32.01 SKY77	ECE 160608 TR-25	h_{max}	0.15	0.15	0.12	0.12	0.10	0.10	0.08
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
ECE1808..	EC.E1808.33.01 SKY77	ECE 180808 TR-25	h_{max}	0.20	0.17	0.14	0.12	0.10	0.10	0.08
			v_c	280-320	240-280	210-240	180-210	140-180	110-140	80-110
ECE2008..	EC.E2008.33.01 SKY77	ECE 200810 TR-25	h_{max}	0.20	0.17	0.14	0.12	0.10	0.10	0.08
			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
ECE1406..	EC.E1406.32.01 SKY77	ECE 140606 TR-25	h_{max}	0.18	0.15	0.12	0.12	0.10	0.08
			v_c	290-340	270-300	240-280	210-240	180-210	140-180
ECE1606..	EC.E1606.32.01 SKY77	ECE 160608 TR-25	h_{max}	0.18	0.15	0.12	0.12	0.10	0.08
			v_c	290-340	270-300	240-280	210-240	180-210	140-180
ECE1808..	EC.E1808.33.01 SKY77	ECE 180808 TR-25	h_{max}	0.18	0.15	0.12	0.12	0.10	0.08
			v_c	290-340	270-300	240-280	210-240	180-210	140-180
ECE2008..	EC.E2008.33.01 SKY77	ECE 200810 TR-25	h_{max}	0.18	0.15	0.12	0.12	0.10	0.08
			v_c	290-340	270-300	240-280	210-240	180-210	140-180

INTERCHANGEABLE HEADS **EC**



ECE						
AS	Ø				s	
3	14	16	18	20	06	08
	14	16	18	20	6	8

Matching of machining parameters
with the AV material groups

Article	Designation		Stainless steels				NF metals			
			C12	C11	C10	C09	E82	E81	E80	
ECE1406..	EC.E1406.32.01 SKY77	ECE 140606 TR-25	h_{max}	0.12	0.10	-	-	0.22	0.18	0.15
			v_c	120-200	100-160	-	-	650-1000	450-650	280-450
ECE1606..	EC.E1606.32.01 SKY77	ECE 160608 TR-25	h_{max}	0.12	0.10	-	-	0.22	0.18	0.15
			v_c	120-200	100-160	-	-	650-1000	450-650	280-450
ECE1808..	EC.E1808.33.01 SKY77	ECE 180808 TR-25	h_{max}	0.12	0.10	-	-	0.22	0.18	0.15
			v_c	120-200	100-160	-	-	650-1000	450-650	280-450
ECE2008..	EC.E2008.33.01 SKY77	ECE 200810 TR-25	h_{max}	0.12	0.10	-	-	0.22	0.18	0.15
			v_c	120-200	100-160	-	-	650-1000	450-650	280-450

INS



ECE1406...	08B.3511.7991	TX215
ECE1606...	08B.3511.7991	TX215
ECE1808...	08B.0516.7991	TX220
ECE2008...	08B.0516.7991	TX220