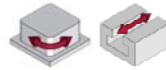




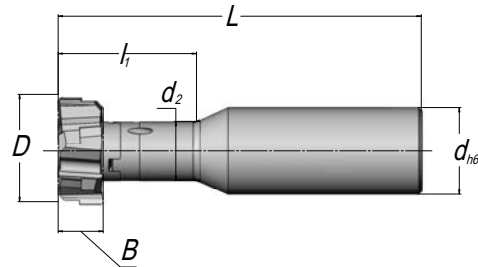


# PROGRAMS

# Avant-Easy-Change T-slot milling cutter ETC90



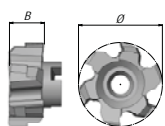
- < high performance slotting cutter following DIN 650 parameters
- < form and force locking cross and/or diamond pull-in step guarantees smooth running
- < maximum replacement accuracy



## Avant-Easy-Change T-slot milling cutter ETC90

article	D	d <sub>2</sub>	B	L	l <sub>1</sub>	d <sub>h6</sub>	z <sub>eff</sub>	ic	Kg	insert
20G.20.1112.01	20	11	8,5	96	30	20	3	yes	0,18	ECT2008.R
20G.20.1313.01	24	13	10	100	35	20	3	yes	0,20	ECT2410.R
20G.25.1713.01	31	17	13	105	40	25	3	yes	0,37	ECT3113.R

larger diameter see page 82-83



**insert** incircle diameter

Ø 20 = 20,00  
 Ø 24 = 24,00  
 Ø 31 = 31,00

**insert thickness**

B 08 = 8,50  
 B 10 = 10,00  
 B 13 = 13,00

**Allocation from machining parameters of AV material groups**

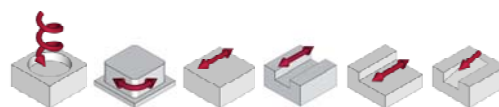
	article	AS	grade		cast iron			steel					
					D20	D18	D17	A22	A20	A18	A16	B15	B14
ECT2008..	ECT2008083201TR25	3	SKY77	$h_{max}$	0,1	0,08	0,05	0,1	0,1	0,08	0,05		
				$v_c$	180	170	160	180	180	170	160		
ECT2410..	ECT2410103301TR25	3	SKY77	$h_{max}$	0,1	0,08	0,05	0,1	0,1	0,08	0,05		
				$v_c$	180	170	160	180	180	170	160		
ECT3113..	ECT3113123301TR25	3	SKY77	$h_{max}$	0,1	0,08	0,05	0,1	0,1	0,08	0,05		
				$v_c$	180	170	160	180	180	170	160		

**insert**

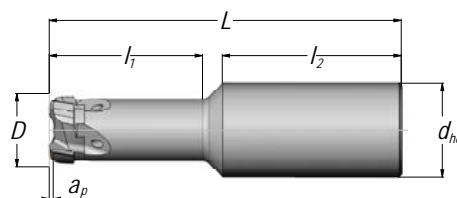


ECT2008.R	08B.3514.7991	TX215
ECT2410.R	08B.0520.7991	TX220
ECT3113.R	08B.0520.7991	TX220

# Avant-Easy-Change Turbavant SP18

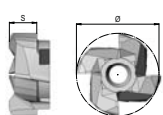


- < HPC- cutter as indexable insert system
- < optimal power transmission by form and force locking cross and/or diamond pull-in step
- < constant accuracy while indexing
- < stable design



## Avant-Easy-Change Turbavant SP18

article	D	d <sub>h6</sub>	L	l <sub>1</sub>	l <sub>2</sub>	z <sub>eff</sub>	a <sub>p</sub>	ramp	ic	Kg	insert
20G.20.1412.01	16	20	80	27	50	4	0,8	1,2°	yes	0,15	ECK1612.R
20G.20.1422.01	16	20	95	42	50	4	0,8	1,2°	yes	0,17	ECK1612.R
20G.20.1432.01	16	20	120	67	50	4	0,8	1,2°	yes	0,20	ECK1612.R
20G.32.2125.01	25	32	120	52	61	4	0,8	2,1°	yes	0,53	ECK2512.R
20G.32.2135.01	25	32	150	82	61	4	0,8	2,1°	yes	0,61	ECK2512.R



**insert** | **insert diameter**

Ø 16 = 16,00

Ø 25 = 25,00

**insert thickness**

S 12 = 12,00

**Allocation from machining parameters of AV material groups**

	article	AS	grade		cast iron			steel					
					D20	D18	D17	A22	A20	A18	A16	B15	B14
ECK1612..	ECK1612104202TR25	4	SKY77	$h_{max}$	0,8	0,6	0,5	0,8	0,7	0,6	0,5		
				$v_c$	240	230	220	240	240	230	220		
ECK2512..	ECK2512104501TR25	4	SKY77	$h_{max}$	0,8	0,6	0,5	0,8	0,7	0,6	0,5		
				$v_c$	240	230	220	240	240	230	220		

**insert**

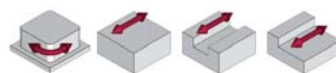


ECK1612.R	08B.3512.7991	TX215
ECK2512.R	08B.0520.7991	TX220

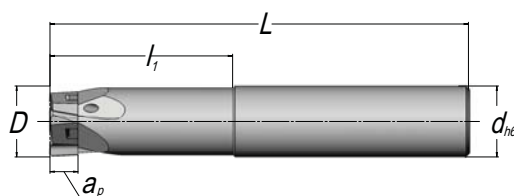
»Technical information for ramp page 109

» Information for “theoretical corner radius” Turbavant SP18 page 110

# Avant-Easy-Change Shank end mill TS90





- < alternative for full carbide end mills by small DOC
- < perfect match of insert groove and drive keys
- < optimal power transmission by form and force locking cross and/or diamond pull-in step guarantees highest balance





## Avant-Easy-Change Shank end mill TS90

article	D	L	l <sub>1</sub>	d <sub>h6</sub>	z <sub>eff</sub>	a <sub>p</sub>	ic	Kg	insert
20G.14.1412.01	14	75,0	18	14	3	6,0	no	0,10	ECE1406.R
20G.16.1612.01	16	82,0	22	16	3	6,0	no	0,12	ECE1606.R
20G.18.1813.01	18	84,0	23	18	3	8,0	yes	0,15	ECE1808.R
20G.20.2013.01	20	92,0	26	20	3	8,0	yes	0,20	ECE2008.R
20G.14.1432.01	14	93,1	36	14	3	6,0	yes	0,10	ECE1406.R
20G.16.1632.01	16	104,1	44	16	3	6,0	yes	0,14	ECE1606.R
20G.18.1833.01	18	108,0	47	18	3	8,0	yes	0,20	ECE1808.R
20G.20.2033.01	20	118,0	52	20	3	8,0	yes	0,26	ECE2008.R

		insert	incircle diameter	insert thickness
			ø 14 = 14,00	S 06 = 6,00
			ø 16 = 16,00	S 08 = 8,00
			ø 18 = 18,00	
			ø 20 = 20,00	

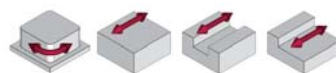
Allocation from machining parameters of AV material groups

	article	AS	grade		cast iron			steel					
					D20	D18	D17	A22	A20	A18	A16	B15	B14
ECE1406..	ECE1406063201TR25	3	SKY77	$h_{max}$	0,16	0,14	0,12	0,16	0,15	0,13	0,12		
				$v_c$	240	230	220	240	240	230	220		
ECE1606..	ECE1606083201TR25	3	SKY77	$h_{max}$	0,18	0,16	0,13	0,18	0,16	0,14	0,13		
				$v_c$	240	230	220	240	240	230	220		
ECE1808..	ECE1808083301TR25	3	SKY77	$h_{max}$	0,2	0,18	0,14	0,2	0,2	0,18	0,14		
				$v_c$	240	230	220	240	240	230	220		
ECE2008..	ECE2008103301TR25	3	SKY77	$h_{max}$	0,2	0,18	0,14	0,2	0,2	0,18	0,14		
				$v_c$	240	230	220	240	240	230	220		

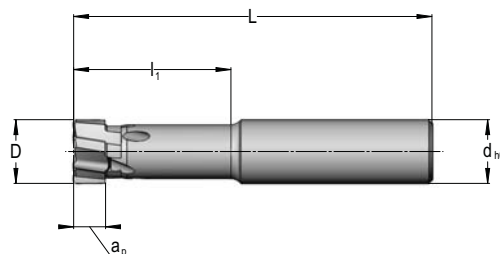
insert		
ECE1406.R	08B.3511.7991	TX215
ECE1606.R	08B.3511.7991	TX215
ECE1808.R	08B.0516.7991	TX220
ECE2008.R	08B.0516.7991	TX220



# Avant-Easy-Change Shank end mill XS90

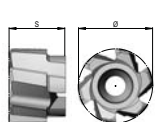


- < variable in diameter and pitch
- < optimal power transmission by form and force locking cross and/or diamond pull-in step
- < constant accuracy while indexing



## Avant-Easy-Change Shank end mill XS90

article	D	L	l <sub>1</sub>	d <sub>h6</sub>	z <sub>eff</sub>	a <sub>p</sub>	ic	Kg	insert
20G.16.1327.10	16	90,0	40	16	6	8,0	yes	0,12	ECE1612.R
20G.20.1624.10	20	100,0	48	20	8	10,0	yes	0,24	ECE2014.R
20G.25.2013.01	25	120,0	30	25	5	8,5	yes	0,42	ECE2512.R
20G.25.2033.01	25	130,0	71	25	5	8,5	yes	0,39	ECE2512.R
20G.25.2126.10	25	110,0	53	25	8	12,5	yes	0,36	ECE2516.R
20G.32.2526.10	28	120,0	58	32	8	15,0	yes	0,62	ECE2818.R



insert	incircle diameter	insert thickness
	∅ 16 = 16,00	S 12 = 12,00
	∅ 20 = 20,00	S 14 = 14,00
	∅ 25 = 25,00	S 16 = 16,00
	∅ 28 = 28,00	S 18 = 18,50

Allocation from machining parameters of AV material groups

	article	AS	grade		cast iron			steel					
					D20	D18	D17	A22	A20	A18	A16	B15	B14
ECE1612..	ECE1612106710TR28	6	SKY77	$h_{max}$	0,16	0,14	0,12	0,16	0,15	0,13	0,12		
				$v_c$	240	230	220	240	240	230	220		
ECE2014..	ECE2014108410TR28	8	SKY77	$h_{max}$	0,18	0,16	0,13	0,18	0,16	0,14	0,13		
				$v_c$	240	230	220	240	240	230	220		
ECE2512..	ECE2512105302TR25	5	SKY77	$h_{max}$	0,2	0,18	0,14	0,2	0,2	0,18	0,14		
				$v_c$	240	230	220	240	240	230	220		
ECE2516..	ECE2516108610TR28	8	SKY77	$h_{max}$	0,2	0,18	0,14	0,2	0,2	0,18	0,14		
				$v_c$	240	230	220	240	240	230	220		
ECE2818..	ECE2818108610TR28	8	SKY77	$h_{max}$	0,2	0,18	0,14	0,2	0,2	0,18	0,14		
				$v_c$	240	230	220	240	240	230	220		

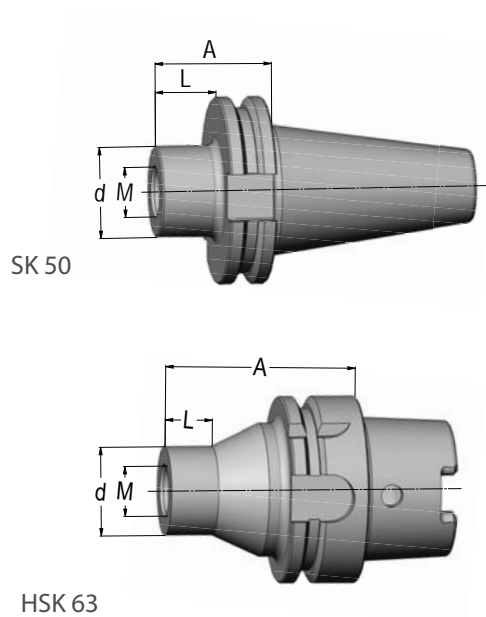
insert



ECE1612.R	08B.0416.7991	TX215
ECE2014.R	08B.0520.7991	TX220
ECE2512.R	08B.0520.7991	TX220
ECE2516.R	08B.0627.7991	TX225
ECE2818.R	08B.0627.7991	TX225

# Triloc shank

- < stable connection, specially for long overhangs
- < extremely accurate control of radial run out
- < vibration damped system available
- < safer and faster machining

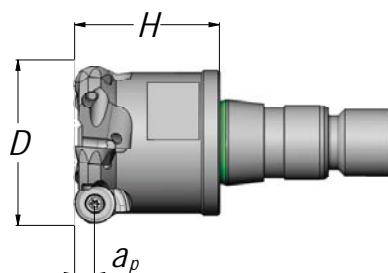


## Shanks for Triloc program

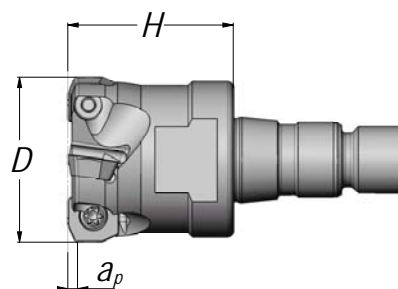
	article	d	L	M	A	Kg
SK50	09C.5018.160	30	90	16	120	3,13
	09C.6314.125	30	95	12	130	1,20
HSK63	09C.6318.160	30	89	16	125	1,13
	09C.6318.165	30	114	16	150	1,26

# Triloc tool

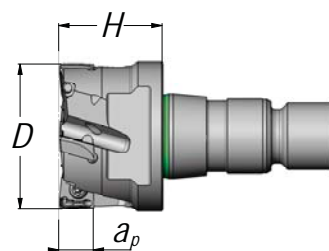
RO18-HSC



Primavant-HSC



Megavant-HSC



## tools for Triloc program

	article	D	H	M	z <sub>eff</sub>	a <sub>p</sub>	ramp	ic	Kg	insert
RO18-HSC	18R.2520.011	25	20	M12	3	5,0	5,0°	yes	0,07	RD..10T3.N
	18R.3230.011	32	30	M16	4	5,0	4,0°	yes	0,19	RD..10T3.N
	18R.3535.011	35	35	M16	4	5,0	3,0°	yes	0,26	RD..10T3.N
	18R.4035.011	40	35	M16	5	5,0	3,0°	yes	0,29	RD..10T3.N
Primavant-HSC	18U.4040.040	40	40	M16	4	2,0	4,0°	yes	0,34	UE..1204.R
Megavant-HSC	04M.0225.150	28	25	M12	3	5,5	▪	yes	0,10	MO..1003.R
	04M.0325.150	35	25	M16	4	5,5	▪	yes	0,22	MO..1003.R

insert	incircle diameter	insert thickness
	∅ 10 = 10,00	ST3 = 3,97
	∅ 12 = 12,70	S 03 = 3,60
		S 04 = 4,76

Allocation from machining parameters of AV material groups

	article	AS	grade	a <sub>p</sub> at 1/4 from insert-∅	cast iron			steel					
					D20	D18	D17	A22	A20	A18	A16	B15	B14
RD..10T3..	RDGX10T3M000210SN25	8	NERO <sup>2</sup> 43	f <sub>z</sub>	0,5	0,35	0,3	0,4	0,35	0,3	0,25		
				v <sub>c</sub>	280	260	250	280	260	250	240		
	RDGX10T3M000211TN28		SKY26	f <sub>z</sub>	0,4	0,3	0,25						
				v <sub>c</sub>	240	230	210						
	RDGX10T3M000214SN30		NERO <sup>2</sup> 43	f <sub>z</sub>				0,3	0,3	0,25	0,25	0,2	0,2
				v <sub>c</sub>				260	250	230	220	200	180

Allocation from machining parameters of AV material groups

	article	AS	grade	a <sub>p</sub> at 1/4 from insert-∅	stainless steel			titanium	aluminium
					C11	C10	C09	C08	E80
RD..10T3..	RDGX10T3M000210SN25	8	NERO <sup>2</sup> 43	f <sub>z</sub>					
				v <sub>c</sub>					
	RDGX10T3M000211TN28		SKY26	f <sub>z</sub>					
				v <sub>c</sub>					
	RDGX10T3M000214SN30		NERO <sup>2</sup> 43	f <sub>z</sub>	0,2	0,15	0,1	0,1	0,3
				v <sub>c</sub>	130	120	110	60-70	250-650

f<sub>z</sub> adjustment at different a<sub>p</sub> values

a <sub>p</sub>	0,5	1	1,5	2	2,5	3	3,5	4	5	6	7	8
RD 10	2,00	1,50	1,25	1,10	1,00	0,95	0,90	0,85	0,90			

## Allocation from machining parameters of AV material groups

	article	AS	grade		cast iron			steel						
					D20	D18	D17	A22	A20	A18	A16	B15	B14	
UE..1204..	UEGW12041001610SR25	4	NERO <sup>2</sup> 77	f <sub>z</sub>	2	1,6	1	2	2	1,5	1,5	1,2	1	
				v <sub>c</sub>	280	260	250	280	260	250	240	220	200	
	UEGW12041001611TR28		NERO <sup>2</sup> 77	f <sub>z</sub>	1,8	1,4	0,8	1,8	1,8	1,4	1,4	1	0,8	
				v <sub>c</sub>	280	260	250	280	260	250	240	220	200	
				ICE <sup>2</sup> 43	f <sub>z</sub>	1,8	1,4	0,8	1,8	1,8	1,4	1,4	1	0,8
					v <sub>c</sub>	260	250	230	260	250	230	220	200	180
MO..1003..	MOGU10031003104TR28	2	SKY77	h <sub>max</sub>	0,18	0,15	0,14	0,18	0,16	0,15	0,12	0,1	0,08	
				v <sub>c</sub>	240	230	220	240	230	220	180	160	140	

## insert



RD..10T3.N	08B.0375.7991	TX208
UE..1204.R	08B.0411.7991	TX215
MO..1003.R	08B.0309.001	TX208

» Technical information for ramp page 109

» Technical information for f<sub>z</sub> adjustment page 109

» Information for "theoretical corner radius" Primavant page 110