

hard material matters



MSS-SX

EN





Competence in parting and grooving



□ THE ADVANTAGES IN DETAIL

Full range programme: components for all parting and grooving parts and materials

Flexibility: one system for all parting and grooving operations

Precision: accurate repeatability, high quality components

Stability: application security, parting & grooving and longitudinal turning

Simplicity: quick change of modules in case of tool breakage, short machine downtimes and easy handling

Economy: reduced number of stock articles provides a variety of combination possibilities



MSS

see special catalogue
'MSS - the modular parting,
grooving and threading system',
No. 148



MaxiClick

see special catalogue
'MaxiClick – the new parting & grooving
system for small cutting widths',
No. 294



MSS Mono

see special catalogue
'MSS - Monobloc holders for
parting and grooving',
No. 214

MSS-SX

Customer benefits

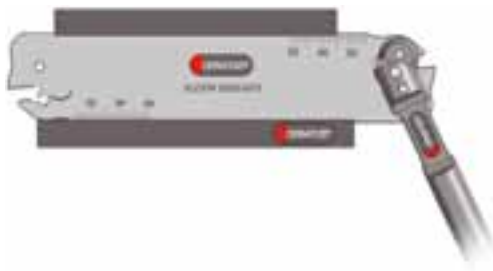
- **Active clamping with fixed stop**
 - Exact positioning of the cutting edge
 - Inserts will not pull out of the cutting blade
- **Easy handling**
 - Quick insert change
- **FEM optimized tool**
 - Maximum stability also when longitudinal turning
- **HyperCoat grades**
 - Longer tool life
 - Wide material range covered
- **CERATIZIT insert geometries**
 - Optimum swarf control



The result:

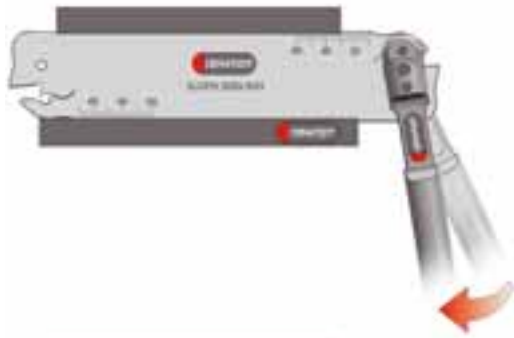
Process security

Handling



1

- Insert mounting key with handle towards the front into the 2 tool location points.



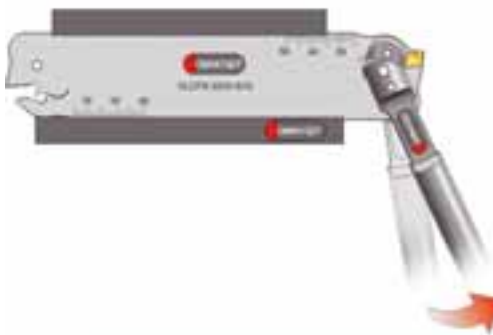
2

- When moving the mounting key in the direction of the arrows the insert seat is opened.



3

- Position the insert pressing it against the location face.



4

- Moving the mounting key forward the insert seat locks and the insert is clamped securely.





The clamping system is designed in such a way that the mounting key can be inserted into the blade from both sides.



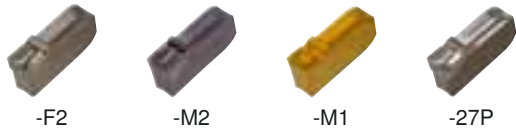
System description

Designation system for inserts

	Insert system	Application	Cutting width	Hand	Corner radius / angle	Chip groove code
	SX	E	3.00	N	0.30	- M2
	SX	R	2.5	N		- M3



Parting and grooving inserts MSS SX-E



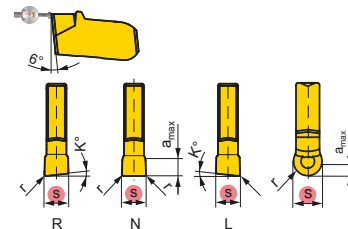
s [mm]	Type, description	R M L	L N R						r [mm]	a _{max} [mm]	K [°]
				H216T	CTC1325	SR735	CTP1340	GM740			
2.00	SX E2.00R6-M1	M	R	●	●	●	●	●	0.20	1.5	6
	SX E2.00N0.20-F2	F	N	●	●	●	●	●	0.20	1.5	
	SX E2.00N0.20-M2	M		●	●	●	●	●	0.20		
	SX E2.00N0.20-M1	M		●	●	●	●	●	0.20		
	SX E2.00N0.20-27P	M		●					0.20	2.0	
SX E2.00L6-M1	M	L	●		●			0.20		6	
3.00	SX E3.00R6-M1	M	R	●	●	●	●	●	0.20	2.0	6
	SX E3.00N0.30-F2	F	N	●	●	●	●	●	0.30	2.0	
	SX E3.00N0.30-M2	M		●	●	●	●	●	0.30		
	SX E3.00N0.20-M1	M		●	●	●	●	●	0.20		
	SX E3.00N0.30-27P	M		●					0.30	2.5	
SX E3.00L6-M1	M	L	●		●			0.20		6	
4.00	SX E4.00R6-M1	M	R	●	●	●	●	●	0.30	2.5	6
	SX E4.00N0.40-F2	F	N	●	●	●	●	●	0.40	2.5	
	SX E4.00N0.40-M2	M		●	●	●	●	●	0.40		
	SX E4.00N0.30-M1	M		●	●	●	●	●	0.30		
	SX E4.00N0.40-27P	M		●					0.40	3.0	
SX E4.00L6-M1	M	L	●		●			0.30		6	
5.00	SX E5.00N0.40-M2	M	N	●	●	●	●	●	0.40	2.7	
	SX E5.00N0.30-M1	M		●	●	●	●	●	0.30		
6.00	SX E6.00N0.50-M2	M	N	●	●	●	●	●	0.50	3.0	
	SX E6.00N0.40-M1	M		●	●	●	●	●	0.40		



Steel	●	●	●	●	●
Stainless	○	○	○	○	○
Cast iron	●	●	●	●	●
Non ferrous metals	●	○	○	○	○
Heat resistant	○	○	○	○	○
Hard materials					

- Main application
- Extended application
- International CERATIZIT range, for present availability see price list

Ordering example: 10 pieces SX E2.00R6-M1 CTC1325



= repeatability (x) see below

Tolerances [mm]			
	x	s	r
-27P	±0,02	±0,02	±0,05
-F2	±0,02	±0,02	±0,05
-M2	±0,1	±0,05	±0,05
-M1	±0,1	±0,05	±0,05

Parting and grooving inserts MSS SX-R

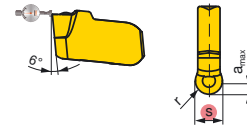


-M3

s [mm]	Type, description			CTP1340							r		a _{max}		
											[mm]	[mm]	[mm]	[mm]	
3.00	SX R1.50N-M3	M	N	●							1.50	1.5			
4.00	SX R2.00N-M3			●								2.00	2.0		
5.00	SX R2.50N-M3			●								2.50	2.5		
6.00	SX R3.00N-M3			●								3.00	3.0		



Steel	●				
Stainless	●				
Cast iron	●				
Non ferrous metals	○				
Heat resistant	○				
Hard materials					



- Main application
- Extended application
- International CERATIZIT range, for present availability see price list

Ordering example: 10 pieces SX R1.50N-M3 CTP1340

= repeatability (x) see below

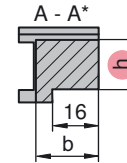
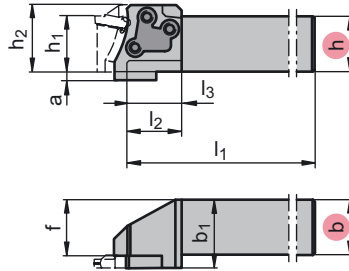
Tolerances [mm]			
	x	s	r
-M3	±0,1	-	±0,05

Tools

Modular system (MSS)



Shank 0°



$h = h_1 = 16$

* Only applicable to
MSS-E20R/L00-1620G

Bgr:	Type, description	LNR 	h [mm]	b [mm]	f [mm]	b ₁ [mm]	h ₁ [mm]	h ₂ [mm]	l ₁ [mm]	l ₂ [mm]	l ₃ [mm]	a [mm]	
20	MSS-E20R00-1620G	R	16	20	20.15	24.25	16	24.0	90	20			MSS-E20R..
20	MSS-E20R00-2020J		20	20	20.15	24.25	20	24.0	110	20			MSS-E20R..
25	MSS-E25R00-2525L		25	25	25.50	31.00	25	30.0	140	25			MSS-E25R..
32	MSS-E32R00-3225N		32	25	25.50	31.00	32	38.0	160	32			MSS-E32R..
32	MSS-E32R00-3232Q		32	32	32.50	38.00	32	38.8	180	32	16.0	3.0	MSS-E32R..
20	MSS-E20L00-1620G	L	16	20	20.15	24.25	16	24.0	90	20			MSS-E20L..
20	MSS-E20L00-2020J		20	20	20.15	24.25	20	24.0	110	20			MSS-E20L..
25	MSS-E25L00-2525L		25	25	25.50	31.00	25	30.0	140	25			MSS-E25L..
32	MSS-E32L00-3225N		32	25	25.50	31.00	32	38.0	160	32			MSS-E32L..
32	MSS-E32L00-3232Q		32	32	32.50	38.00	32	38.8	180	32	16.0	3.0	MSS-E32L..

Ordering example: 1 piece MSS-E20R00-1620G

Bgr. = assembly size

Bgr: [mm]		
20	7897203/M4,0X14/T15	7897208/TORX T15 T
25	7897205/M5,0X18/T20	7897207/TORX T20 T
32	7897206/M6,0X20/T25	7883304/TORX T25 T

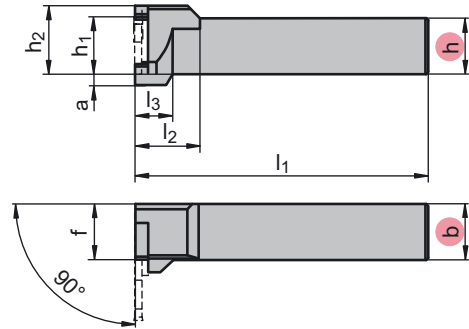






























Tools

Modular system (MSS)



Shank 90°



Bgr:	Type, description	L N R			h [mm]	b [mm]	f [mm]	h ₁ [mm]	h ₂ [mm]	l ₁ [mm]	l ₂ [mm]	l ₃ [mm]	a [mm]	
														
20	MSS-E20R90-2020J	R				20	20	20.00	20	24.0	110	20		MSS-E20L..
25	MSS-E25R90-2525L					25	25	25.00	25	30.0	140	28		MSS-E25L..
32	MSS-E32R90-3225N					32	25	32.00	32	38.0	160	34		MSS-E32L..
32	MSS-E32R90-3232R					32	32	32.00	32	38.8	200	34	19.2	3.0
20	MSS-E20L90-2020J	L				20	20	20.00	20	24.0	110	20		MSS-E20R..
25	MSS-E25L90-2525L					25	25	25.00	25	30.0	140	28		MSS-E25R..
32	MSS-E32L90-3225N					32	25	32.00	32	38.0	160	34		MSS-E32R..
32	MSS-E32L90-3232R					32	32	32.00	32	38.8	200	34	19.2	3.0

Ordering example: 1 piece MSS-E20R90-2020J



Bgr. = assembly size



In case of 90°:

Right-hand shank - left-hand module

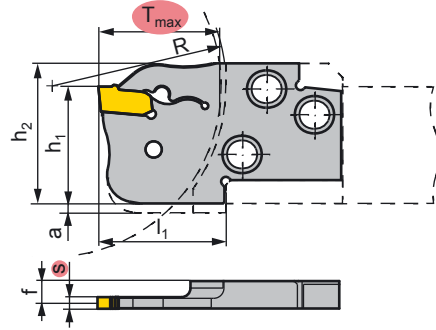
Left-hand shank - right-hand module

Bgr: [mm]		
20	7897203/M4,0X14/T15	7897208/TORX T15 T
25	7897205/M5,0X18/T20	7897207/TORX T20 T
32	7897206/M6,0X20/T25	7883304/TORX T25 T



MSS modules - ext.

Parting, grooving and turning (SX system)

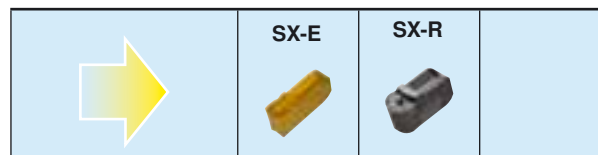
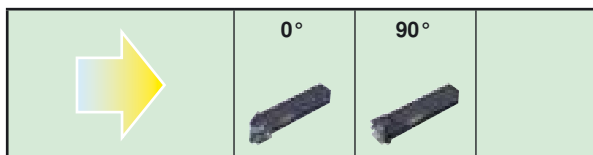


Bgr.	Type, description	LNR 	s [mm]	T _{max} [mm]	h ₁ [mm]	h ₂ [mm]	l ₁ [mm]	f [mm]	a [mm]	R [mm]	
20	MSS-E20R20-SX2	R	2.0	20	20	24	22	3.57	3	30	SX2
20	MSS-E20R20-SX3		3.0	20	20	24	22	3.20	3	30	SX3
20	MSS-E20L20-SX2	L	2.0	20	20	24	22	3.57	3	30	SX2
20	MSS-E20L20-SX3		3.0	20	20	24	22	3.20	3	30	SX3
25	MSS-E25R20-SX2	R	2.0	20	25	30	22	5.07		37.5	SX2
25	MSS-E25R25-SX3		3.0	25	25	30	27	4.70		37.5	SX3
25	MSS-E25R25-SX4		4.0	25	25	30	27	4.30		37.5	SX4
25	MSS-E25R35-SX3		3.0	35	25	30	37	4.70		37.5	SX3
25	MSS-E25L25-SX3	L	3.0	25	25	30	27	4.70		37.5	SX3
25	MSS-E25L20-SX2		2.0	20	25	30	22	5.07		37.5	SX2
25	MSS-E25L25-SX4		4.0	25	25	30	27	4.30		37.5	SX4
25	MSS-E25L35-SX3		3.0	35	25	30	37	4.70		37.5	SX3
25	MSS-E25R35-SX4	R	4.0	35	25	30	37	4.30		37.5	SX4
32	MSS-E32R35-SX4		4.0	35	32	38	37	4.30		48	SX4
32	MSS-E32R35-SX3	R	3.0	35	32	38	37	4.70		48	SX3
32	MSS-E32L35-SX3		3.0	35	32	38	37	4.70		48	SX3
25	MSS-E25L35-SX4	L	4.0	35	25	30	37	4.30		37.5	SX4
32	MSS-E32L35-SX4		4.0	35	32	38	37	4.30		48	SX4

Ordering example: 1 piece MSS-E20R20-SX2

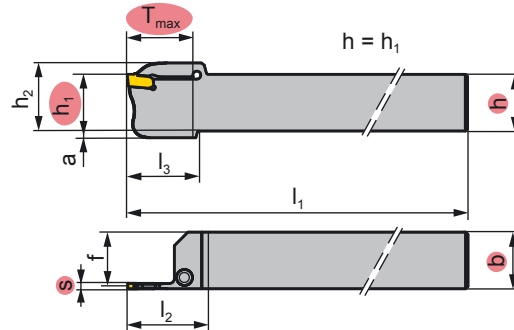
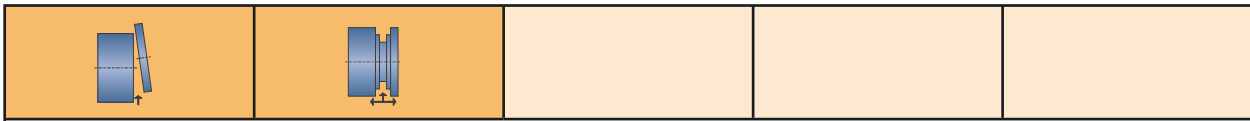
Bgr. = assembly size


	s [mm]			
SX2	2,0	10005884/S12-3		
SX3	3,0	10005884/S12-3		
SX4	4,0	10001365/S15-4		



Tools

Monobloc tool holders (SX system)







Type, description	LNR	h [mm]	b [mm]	s [mm]	T _{max} [mm]		h ₂ [mm]	l ₁ [mm]	l ₂ [mm]	l ₃ [mm]	f [mm]	a [mm]				
E16R0016-1616K-SX2	R	16	16	2.0	16		21.0	125	31	26.0	15.20	7.0	SX2			
E16R0020-1616K-SX3				3.0	20		21.0	125	36	30.0	14.75	7.0	SX3			
E20R0016-2020K-SX2				20	20	2.0	16		25.0	125	31	26.0	19.20	5.0	SX2	
E20R0020-2020K-SX3		3.0	20				25.0	125	38	30.0	18.75	5.0	SX3			
E20R0025-2020K-SX4		4.0	25				27.0	125	44	35.0	18.35	5.0	SX4			
E25R0020-2525M-SX3		25	25	3.0	20		30.0	150	40	30.0	23.75	5.0	SX3			
E25R0025-2525M-SX4				4.0	25		32.0	150	46	35.0	23.35	5.0	SX4			
E25R0025-2525M-SX5				5.0	25		32.0	150	46	35.0	22.85	5.0	SX5			
E25R0032-2525M-SX6				6.0	32		33.0	150	54	43.0	22.40	6.0	SX6			
E16L0016-1616K-SX2				L	16	16	2.0	16		21.0	125	31	26.0	15.20	7.0	SX2
E16L0020-1616K-SX3							3.0	20		21.0	125	36	30.0	14.75	7.0	SX3
E20L0016-2020K-SX2		20	20				2.0	16		25.0	125	31	26.0	19.20	5.0	SX2
E20L0020-2020K-SX3	3.0				20		25.0	125	38	30.0	18.75	5.0	SX3			
E20L0025-2020K-SX4	4.0				25		27.0	125	44	35.0	18.35	5.0	SX4			
E25L0020-2525M-SX3	25	25	3.0		20		30.0	150	40	30.0	23.75	5.0	SX3			
E25L0025-2525M-SX4			4.0		25		32.0	150	46	35.0	23.35	5.0	SX4			
E25L0025-2525M-SX5			5.0		25		32.0	150	46	35.0	22.85	5.0	SX5			
E25L0032-2525M-SX6			6.0		32		33.0	150	54	43.0	22.40	6.0	SX6			

Ordering example: 1 piece E16R0016-1616K-SX2



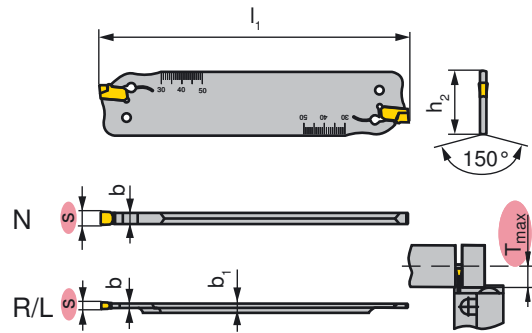
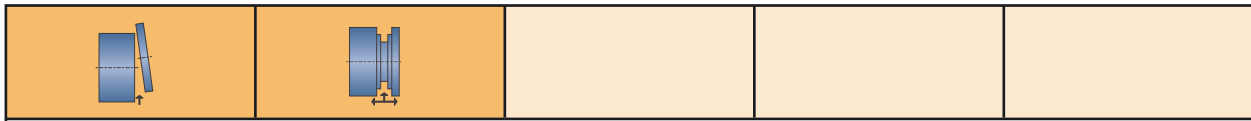
For recommended torque moments see page 28.

		
h [mm] 16 - 25	7897218/M4,0X18/T20	7897207/TORX T20 T

	SX-E 	SX-R 						
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Tools

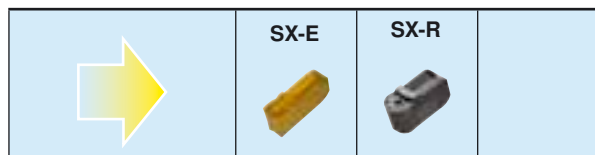
Blade (SX system)



h ₂ [mm]	Type, description	LNR 	s [mm]	T _{max} [mm]	l ₁ [mm]	b [mm]	b ₁ [mm]				
26	XLCFR 2602-SX2	R	2.0	25	110	1.50	2.4				SX2
	XLCFN 2603-SX3	N	3.0	35		2.40					SX3
	XLCFN 2604-SX4		4.0	40		3.20				SX4	
	XLCFL 2602-SX2		L	2.0		25	1.50	2.4			SX2
32	XLCFR 3202-SX2	R	2.0	25	150	1.50	2.4				SX2
	XLCFN 3203-SX3	N	3.0	50		2.40					SX3
	XLCFN 3204-SX4		4.0	50		3.20				SX4	
	XLCFN 3205-SX5		5.0	55		4.20				SX5	
	XLCFN 3206-SX6		6.0	60		5.20				SX6	
	XLCFL 3202-SX2	L	2.0	25		1.50	2.4				SX2

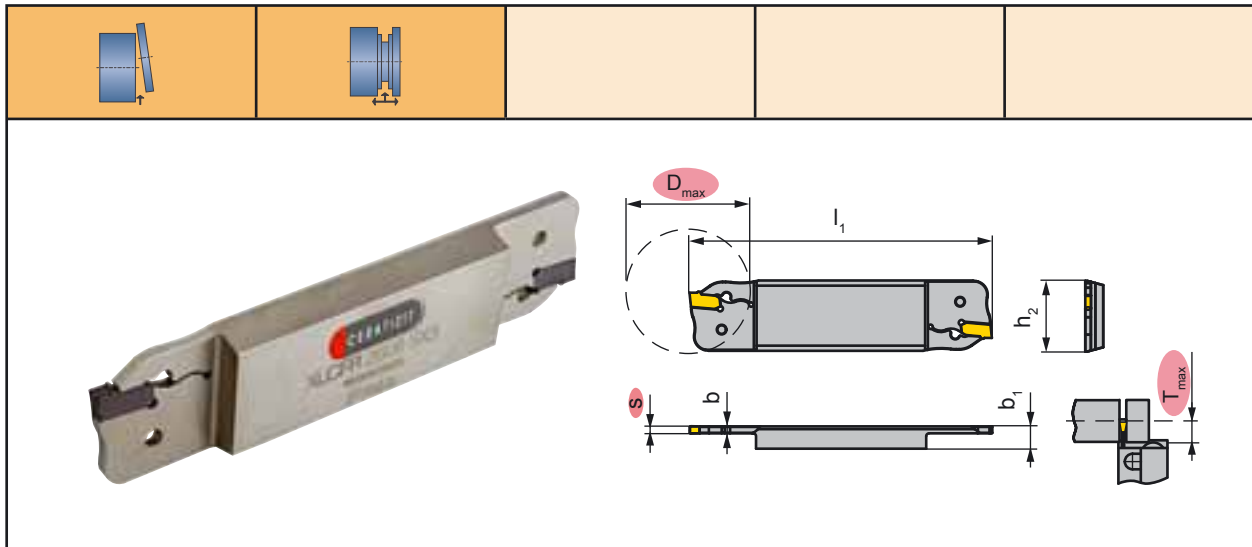
Ordering example: 1 piece XLCFR 2602-SX2



	s [mm]			
SX2	2,0	10005884/S12-3		
SX3	3,0	10005884/S12-3		
SX4	4,0	10001365/S15-4		
SX5	5,0	10001365/S15-4		
SX6	6,0	10001365/S15-4		





Tools

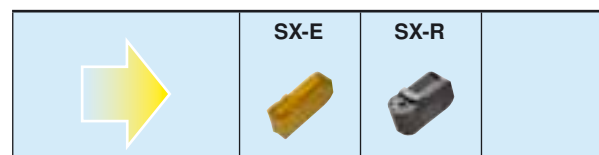
Blade (SX system), reinforced version



h ₂ [mm]	Type, description	L N R 	s [mm]	T _{max} [mm]	D _{max} [mm]	l ₁ [mm]	b [mm]	b ₁ [mm]	
26	XLCFR 2608-SX2	R	2.0	22	44	110	1.50	8.0	SX2
	XLCFR 2608-SX3		3.0						SX3
	XLCFL 2608-SX2	L	2.0						SX2
	XLCFL 2608-SX3		3.0						SX3

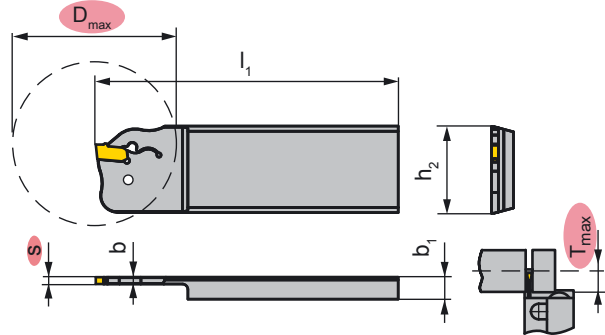
Ordering example: 1 piece XLCFR 2608-SX2

	s [mm]			
SX2	2,0		10005884/S12-3	
SX3	3,0		10005884/S12-3	



Tools

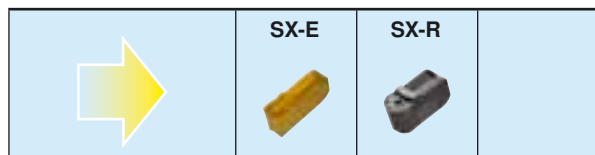
Blade (SX system), reinforced version



h ₂ [mm]	Type, description	LNR 	s [mm]	T _{max} [mm]	D _{max} [mm]	l ₁ [mm]	b [mm]	b ₁ [mm]			
32	XLCFR 3208-SX3	R	3.0	33	66	110	2.50	8.0			SX3
	XLCFR 3208-SX4		4.0				3.40				SX4
	XLCFL 3208-SX3	L	3.0				2.50				SX3
	XLCFL 3208-SX4		4.0				3.40				SX4

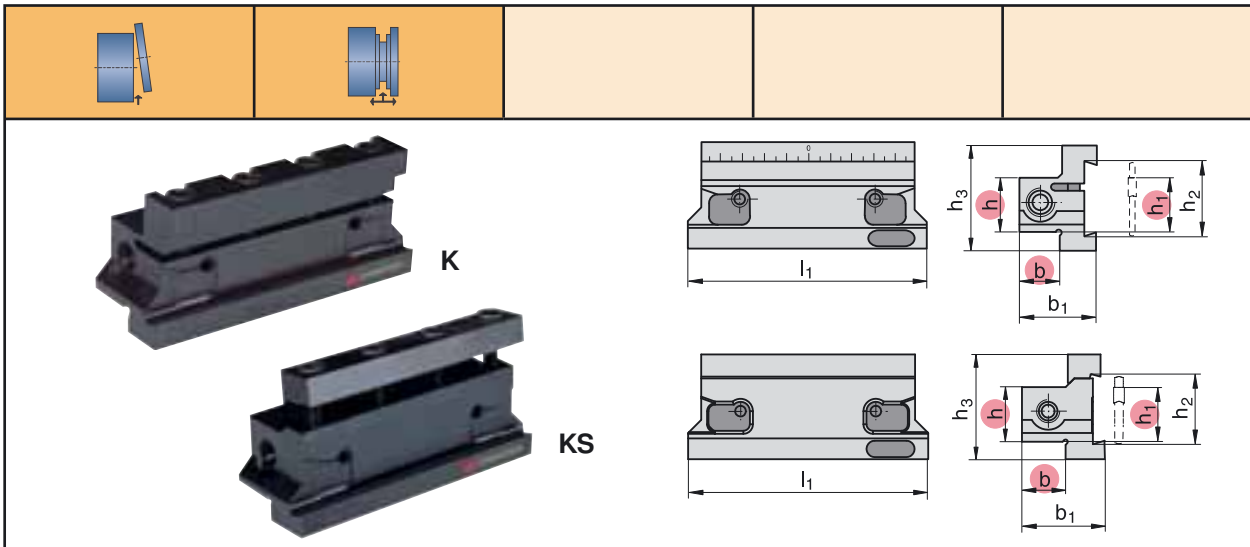
Ordering example: 1 piece XLCFR 3208-SX3


	s [mm]			
SX3	3,0	10005884/S12-3		
SX4	4,0	10001365/S15-4		



Tools

Clamping block






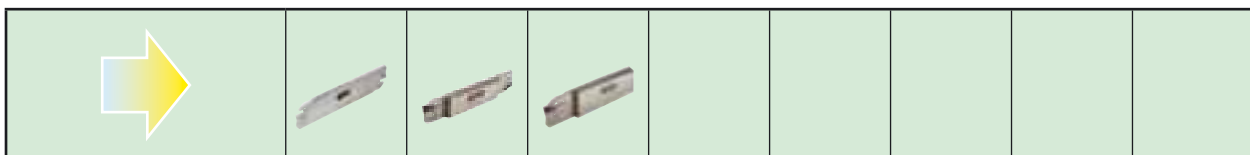
h_2 [mm]	Type, description	$h=h_1$ [mm]	b [mm]	l_1 [mm]	h [mm]	b [mm]			
26	SBN 2020-26 K	20	20	90	39	33,0			XLC.. 26..
	SBN 2020-26 KS		20	90	43	37,0			
32	SBN 2520-32 K	25	20	110	48	36,0			XLC.. 32..
	SBN 2520-32 KS		20	110	49	38,0			
	SBN 3229-32 K	32	29	120	48	44,5			
	SBN 3229-32 KS		29	120	52	47,0			

Ordering example: 1 piece SBN 2020-26 K



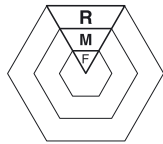
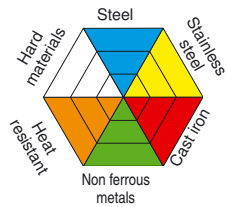
The blocks are delivered without coolant set.
When applying through coolant order the additional coolant set separately.

h_2 [mm]			
26	7802115/M6X25 DIN 912	7812301/SW 5	7802148/R1/8"/SORT
32	7802115/M6X25 DIN 912	7812301/SW 5	7802148/R1/8"/SORT



The easy way to success

Parting and grooving



Consistent cutting depth













Inconsistent cutting depth



Interrupted cut



Chip groove	Machining type	Material	Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
-F2 		●	CTC1325 / SR735	SR735 / CTP1340	–
		●	CTP1340	CTP1340 / GM740	–
		○	CTC1325	CTC1325 / SR735	–
		○	–	–	–
		○	CTP1340	CTP1340/GM740	–
-M2 		●	CTC1325	CTC1325 / SR735	SR735 / CTP1340
		○	CTP1340	CTP1340 / GM740	GM740
		●	CTC1325	CTC1325	SR735
		○	–	–	–
		○	CTP1340	CTP1340	CTP1340 / GM740
-M3 		●	CTP1340	CTP1340	CTP1340
		●	CTP1340	CTP1340	CTP1340
		○	–	–	–
		○	CTP1340	CTP1340	CTP1340
		○	CTP1340	CTP1340	CTP1340
-M1 		●	CTC1325	CTC1325 / SR735	SR735 / CTP1340
		○	CTP1340	CTP1340 / GM740	GM740
		●	CTC1325	CTC1325	SR735
		○	–	–	–
		○	CTP1340	CTP1340	CTP1340 / GM740
-27P 		●	–	–	–
		○	–	–	–
		○	–	–	–
		●	H216T	H216T	H216T
		○	–	–	–

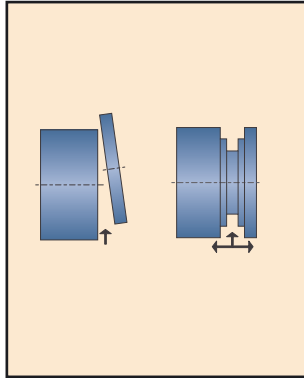
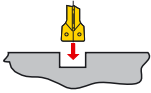
The easy way to success

Recommendations for application

-F2

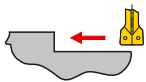
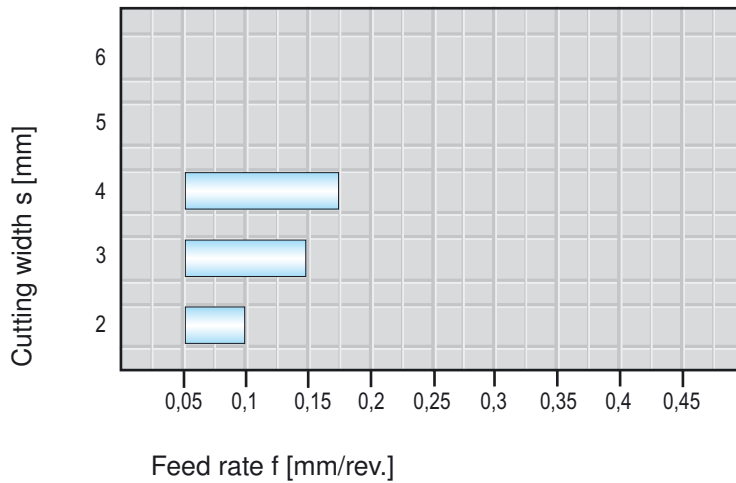


Application:

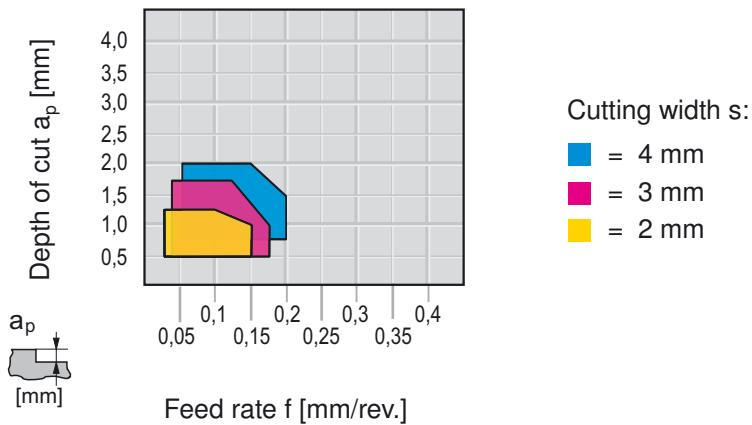


- For steels in general, particularly suitable for **stainless materials**
- Insert with ground periphery
- Parting and grooving width tolerance ± 0.02 mm
- Suitable for parting off tubes and thin-walled work pieces
- Special profiles possible

Feed rate for parting and grooving



Feed rate for longitudinal turning



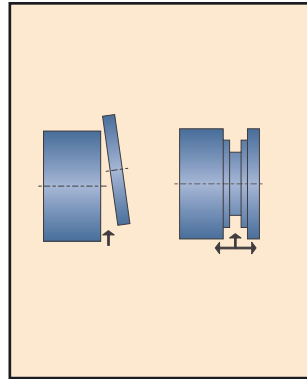
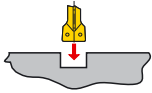
The easy way to success

Recommendations for application

-M2

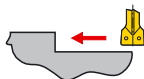
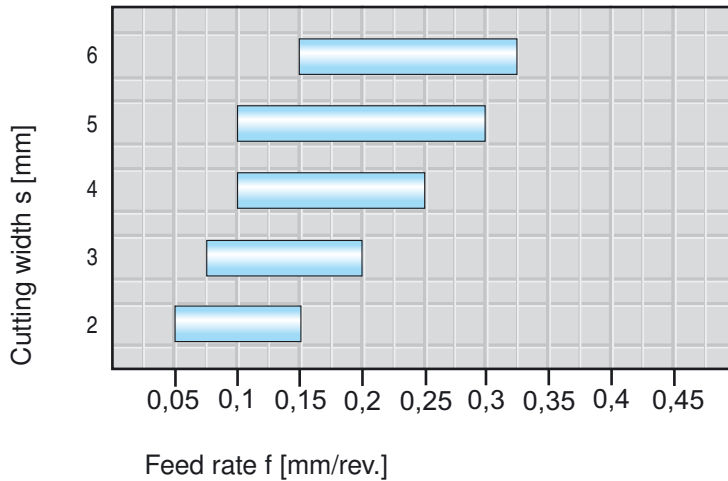


Application:

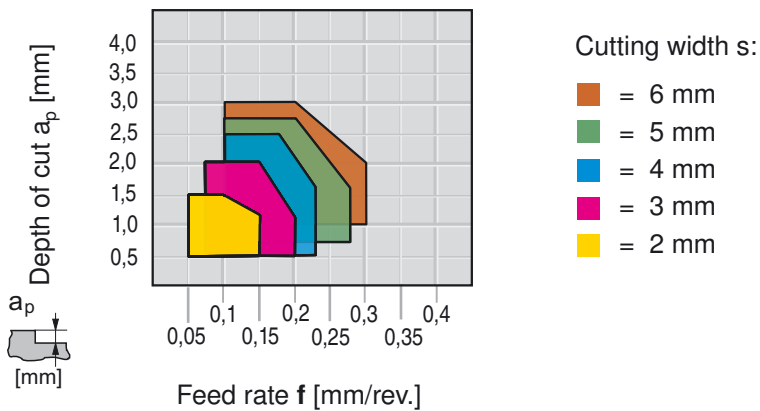


- For grooving and turning
- Suitable for all steel and cast iron materials
- Very good swarf control

Feed rate for parting and grooving



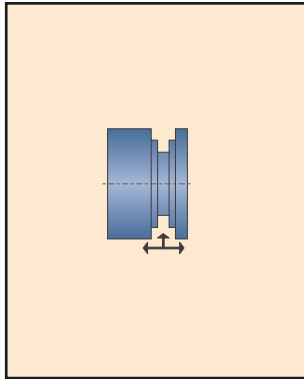
Feed rate for longitudinal turning



The easy way to success

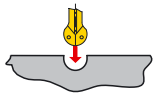
Recommendations for application

-M3

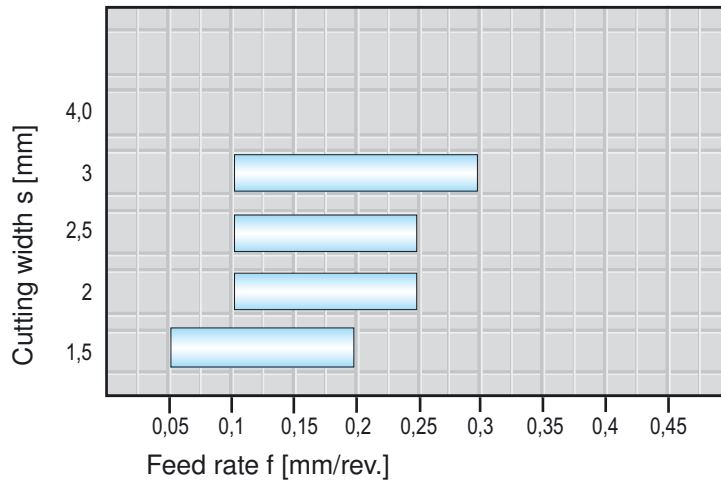


- For grooving and turning
- Suitable for all steel
- Very good swarf control

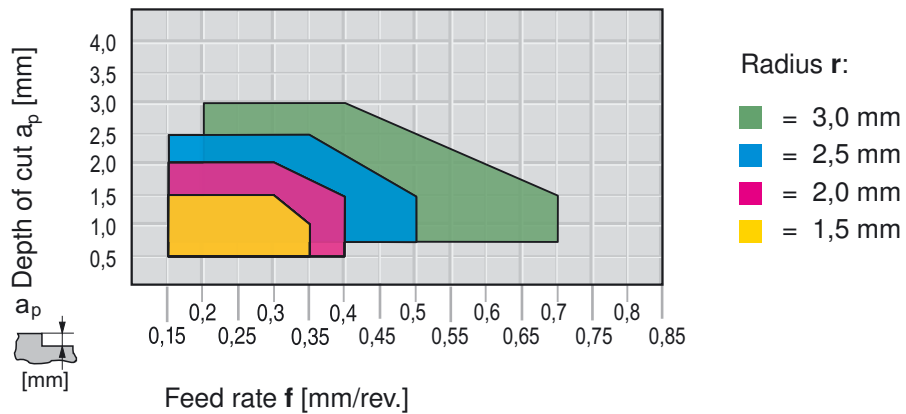
Application:



Feed rate for parting and grooving



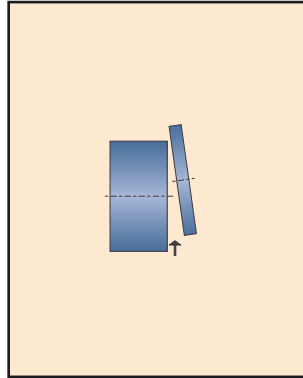
Feed rate for longitudinal turning



The easy way to success

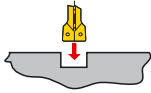
Recommendations for application

-M1

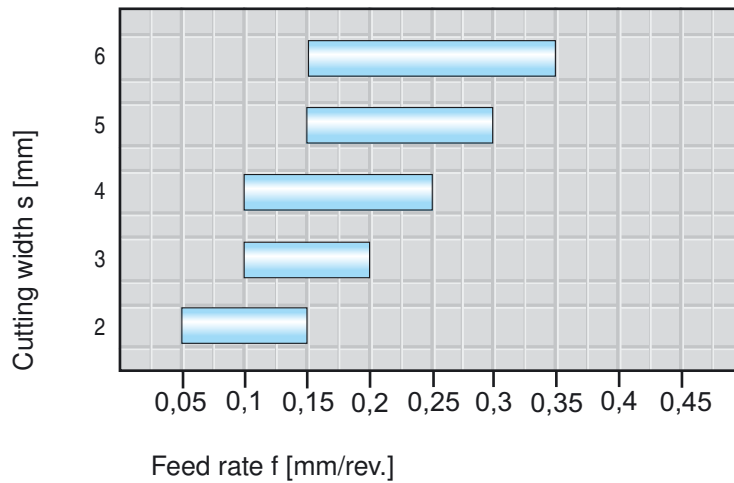


- Insert with narrow negative chamfer
- Suitable for all steel materials with medium to high strength
- Universal application
- For steel and grey cast iron

Application:



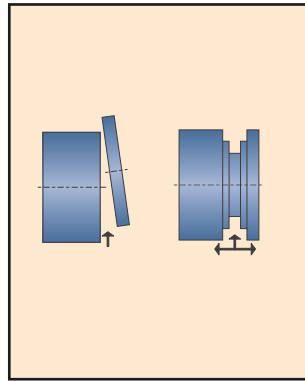
Feed rate for parting and grooving



The easy way to success

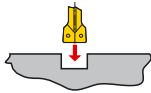
Recommendations for application

-27P

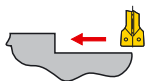
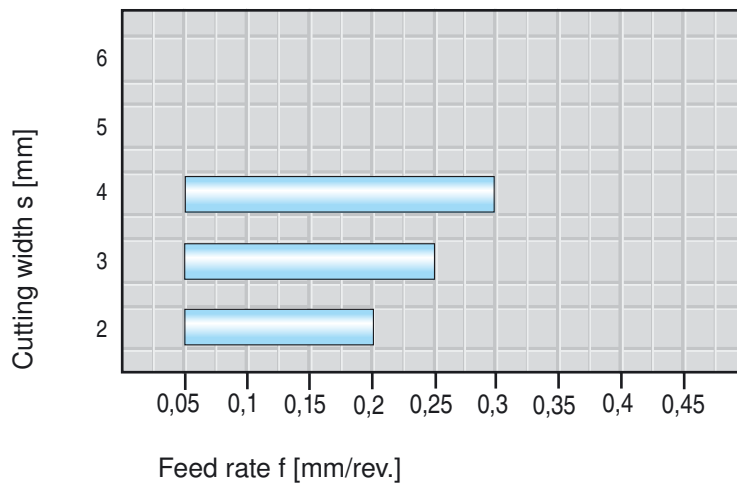


- Particularly suitable for **aluminium and non ferrous metals**
- Insert with highly positive cutting edge geometry and sharp cutting edge
- Ground periphery
- Grooving width tolerance ± 0.02 mm
- Extra-smooth rake face through 'Microfinish'

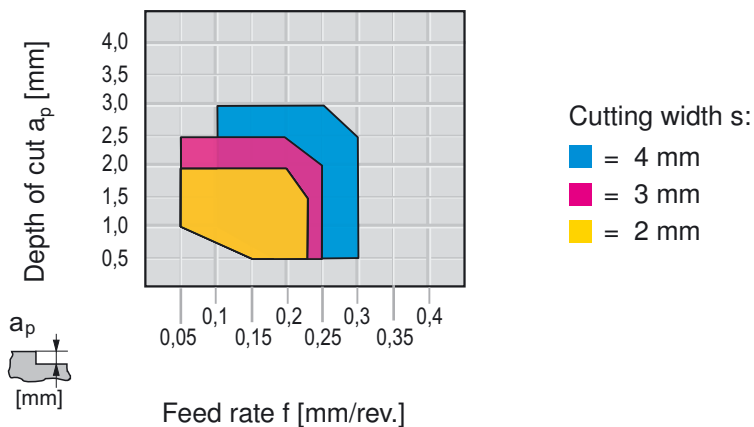
Application:



Feed rate for parting and grooving



Feed rate for longitudinal turning





Cutting data

Work piece material		Type of treatment / alloy		VDI 3323 group	Hardness HB
A	Non alloyed steel	annealed	$\leq 0,15\% \text{ C}$	1	125
		annealed	$0,15\% - 0,45\% \text{ C}$	2	150 - 250
		tempered	$\geq 0,45\% \text{ C}$	3	300
	Low alloyed steel	annealed		6	180
		tempered		7 / 8	250 - 300
		tempered		9	350
	High alloyed steel	annealed		10	200
		tempered		11	350
	Corrosion resistant steel	annealed	ferritic	12	200
		tempered	martensitic	13	325
R	Stainless steel	annealed	ferritic / martensitic	14	200
		quenched	austenitic	14	180
		quenched	duplex	14	230 - 260
		hardened	martensitic / austenitic	14	330
F	Grey cast iron		pearlitic / ferritic	15	180
			pearlitic / martensitic	16	260
	Grey cast iron with spheroidal graphite		ferritic	17	160
			pearlitic	18	-
	Tempered iron		ferritic	19	130
		pearlitic	20	230	
N	Aluminium wrought alloys	non hardened		21	60
		hardened		22	100
	Aluminium cast alloys	non hardened	$< 12\% \text{ Si}$	23	80
		hardened	$< 12\% \text{ Si}$	24	90
		non hardened	$> 12\% \text{ Si}$	25	130
	Copper and copper alloys (bronze, brass)		machining alloy stock (1% Pb)	26	-
			brass, red bronze	27	-
			bronze	28	90
			lead-free copper and electrolytic copper	29	100
	Non metal materials		thermosetting plastics	29	100
		fibre-reinforced plastics	29	-	
		hard rubber	30	-	
S	Heat resistant alloys	annealed	Fe-base	31	200
		hardened	Fe-base	32	280
		annealed	Ni- or Co-base	33	250
		hardened	Ni- or Co-base 30 - 58 HRC	34	-
		cast	Ni- or Co-base 1500 - 2200 Nmm ²	35	-
	Titanium alloys		pure titanium	36	R _m 440*
			alpha + beta alloys	37	R _m 1050*
H	Tempered steel	hardened and tempered		38	55 HRC
		hardened and tempered		39	60 HRC
	Chilled castings	cast		40	400
	Tempered cast iron	hardened and tempered		40	55 HRC

* R_m = maximum strength, measured in MPa


Cutting data

Uncoated carbide			Coated carbide			
H216T v_c [m/min]			CTC1325 v_c [m/min]	SR735 v_c [m/min]	CTP1340 v_c [m/min]	GM740 v_c [m/min]
-			150 - 280	130 - 220	120 - 250	110 - 150
-			130 - 240	110 - 140	80 - 180	80 - 120
-			100 - 200	70 - 150	60 - 150	70 - 110
-			140 - 220	120 - 190	80 - 180	70 - 100
-			130 - 180	110 - 150	60 - 150	70 - 90
-			100 - 160	70 - 130	60 - 120	60 - 90
-			120 - 170	90 - 140	80 - 160	60 - 80
-			100 - 150	70 - 130	50 - 120	60 - 80
-			150 - 250	120 - 200	50 - 200	90 - 130
-			60 - 100	60 - 80	50 - 150	60 - 80
-			120 - 200	—	50 - 200	100 - 180
-			80 - 130	—	50 - 180	80 - 150
-			60 - 100	—	50 - 100	70 - 110
-			120 - 200	—	50 - 80	60 - 90
120 - 160			120 - 200	80 - 150	—	—
90 - 140			100 - 160	60 - 120	—	—
130 - 170			200 - 280	170 - 230	—	—
90 - 130			150 - 230	150 - 200	—	—
140 - 200			100 - 180	70 - 150	—	—
120 - 160			70 - 150	40 - 120	—	—
300 - 2500			—	—	100 - 500	—
200 - 2000			—	—	100 - 300	—
400 - 1500			—	—	100 - 500	—
400 - 1500			—	—	100 - 300	—
200 - 800			—	—	100 - 200	—
250 - 600			—	—	100 - 500	—
200 - 600			—	—	100 - 500	—
150 - 400			—	—	100 - 300	—
150 - 300			—	—	100 - 300	—
80 - 180			—	—	80 - 180	—
60 - 150			—	—	60 - 150	—
100 - 250			—	—	100 - 250	—
30 - 45			25 - 45	—	20 - 50	—
20 - 35			20 - 40	—	20 - 40	20 - 40
20 - 35			15 - 25	—	15 - 25	20 - 30
18 - 30			10 - 20	—	10 - 20	—
15 - 25			10 - 20	—	10 - 20	—
60 - 120			—	—	50 - 120	—
30 - 80			—	—	30 - 50	—
-			10 - 20	—	-	—
-			—	—	-	—
-			10 - 20	—	-	—
-			10 - 20	—	-	—






Technical information, spare parts

Recommended torque moments ...

Tool	Screw	Torx	Nm	in.lbs
 <p>Monobloc tool holder Shank16x16-25x25 mm</p>	7897218/M4,0X18/T20	T20	4,0	35,4

Torque keys (inserts/bits)

 <p>1 + 1 + 5 pcs. (incl. in delivery)</p>	DMSD 4,0Nm/SORT T20	Torque moment set to: 4.0 Nm
 <p>1 + 1 pcs. (incl. in delivery)</p>	DMSD 1-5Nm/SORT	Torque moment can be adjusted flexibly: 1.0-5.0 Nm
	DMSD 2-8Nm/SORT	Torque moment can be adjusted flexibly: 2.0-8.0 Nm
	DMSD-B T20-50mm	

Measures for parting and grooving problems

Parting and grooving – SX system

Type of problem										Corrective measures	
Type of wear				Work piece problems				Swarf control			
Edge chipping	Built-up edge	Flank wear	Plastic deformation	Vibration	Formation of pits and burrs	Chattered surface	Surface quality	Chip too long (tangled swarf)	Chip too short (fragmented chip)		
	↑	↓	↓	↓			↑	↓		Cutting speed	Cutting data
↓		~	↓	↑		↓	↓	↑	↓	Feed rate	
↓		↓	↓		↓	↓	↓			Feed rate approaching centre (solid part-off)	
↑	↓		~	~	↓	↓	↓	↓	↑	Chip groove	Selection of inserts
					●					Type R / L	
↑		↑	↑	↓	↓	↓	↑			Corner radius larger ↓ ↑ smaller	
↓		↑	↑							Cutting material wear resistance ↓ ↑ toughness	
				↓		↑	↑			Parting and grooving width	General criteria
~				~		~	~			Clamping of tool	
~				~		~	~			Clamping of work piece	
~				~			↓			Overhang	
~		~		~	~		~			Tip height	
	●	●	●		●		●	●		Cooling lubricant	

↑ raise, increase large influence

↓ avoid, reduce large influence

~ check, optimize

↑ raise, increase low influence

↓ avoid, reduce low influence

● use

Practical examples

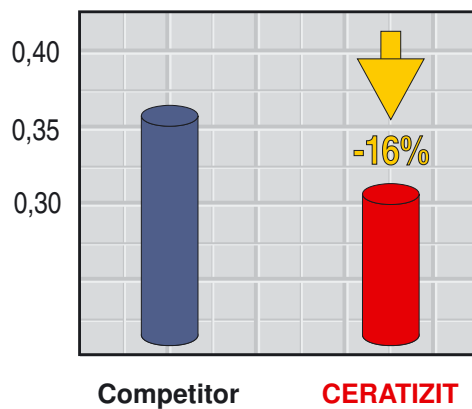
Cutting parameters

	Competitor	CERATIZIT
$v_c = [m/min]$	280	280
$f = [mm/rev.]$	0.15	0.18
$t_h = [min]$	0.27	0.23

Work piece: bar, high-volume part
Material: 11SMn 30 -1.0715
Insert: SX E3.00N0.30-M2 CTC1325

Total cost per part

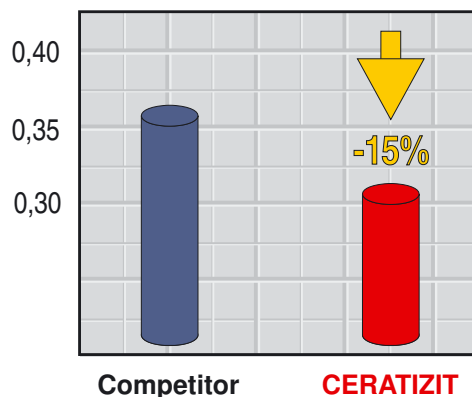
[euros per part]



€ 18,000
saved per year

Machining time per part

[min. per part]



200 hours
saved per year

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