Nuova C.U.M.E.T.



*Silver*Pro Rev. 01



Precision in *movement!*

Certificato

Reg. № IT-TO-012-4314-Q/23.11.2021

Il sistema di gestione

NUOVA C.U.M.E.T. SRL

Via Pomba, 29 – 10123 Torino

è valutato ed approvato nel rispetto dei requisiti di

ISO 9001:2015

Scopo della certificazione:

PROGETTAZIONE E PRODUZIONE DI UTENSILI STANDARD E SPECIALI IN METALLO DURO INTEGRALE PER LA MECCANICA IN GENERALE

Sito lavorativo:
Via Torino, 502/BIS – 10032 Brandizzo (TO)

EA: 17

BORIS STOYANOV,
Direttore

Senza l'effettuazione degli audit di sorveglianza, questo certificato è valido fino al: 23.10.2022
Dopo l'esito positivo dell'audit di sorveglianza 1, AQ Cert emette l'Allegato 1 per espandere la validità fino al: 23.10.2023
Dopo l'esito positivo dell'audit di sorveglianza 2, AQ Cert emette l'Allegato 1 per espandere la validità fino al: 23.10.2024
La validità del certificato può essere verificata su italia.aqcert.org/check

Organismo di certificazione per i sistemi di gestione presso Alpha Quality Certification Ltd.
UIC: 200229912, Indirizzo di registrazione: Via Banat 19, 8° piano, 1407 Sofia, Bulgaria
Accreditamento di EA BAS, № 9 OCC / 07.12.2020 · +35928628357 · office@aqcert.org · www.aqcert.org
Per informazioni in Italiano, contatto autorizzato per l'Italia +393478797694

ИА "БСА"
Per. № 9 ОСС
ОРГАН ПО СЕРТИФИКАЦИЯ НА СИСТЕМИ

Fresa a Divisione Irregolare-Elica Variabile in metallo duro integrale

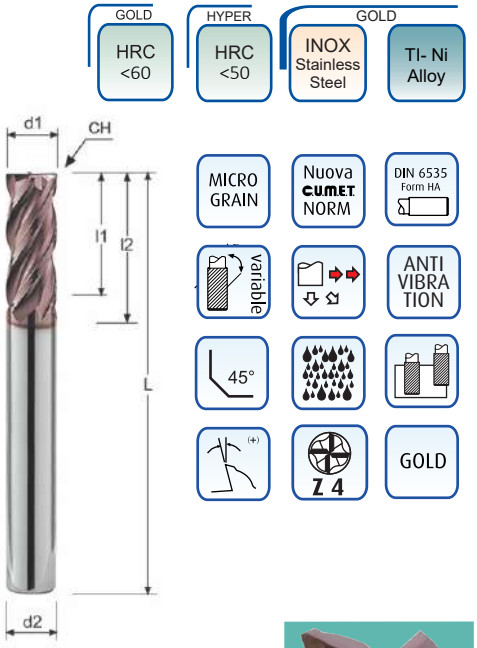
Solid carbide end mill, unequal division - Variable Helix



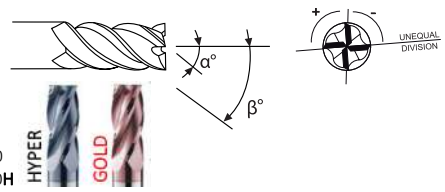
VHM-Torusfräser Ungleiche Drallwinkel-Ungleike Teilung - Fraise end carbur avec rayon d'angle, Irrégulière Division-Hélice Variable
Фреза концевая твердосплавная с угловым радиусом с переменным углом наклона винтовой канавки
Sk fréza s rohovým rádiusem a nerovnoměrným úhlem šroubovice - Variabilní helix

CODE	*d1 mm	d2 mm	CH mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	Euro HYPER	Euro GOLD
400SVS.030	**3**	6	0.1x45°	9	12	57	2.8	4		
400SVS.040	**4**	6	0.1x45°	11	16	57	3.8	4		
400SVS.050	**5**	6	0.1x45°	13	20	57	4.8	4		
400SVS.060	**6**	6	0.3x45°	13	23	57	5.8	4		
400SVS.080	**8**	8	0.3x45°	22	32	63	7.8	4		
400SVS.100	**10**	10	0.3x45°	25	34	72	9.8	4		
400SVS.120	**12**	12	0.3x45°	27	42	83	11.8	4		
400SVS.140	**14**	14	0.3x45°	30	45	83	13.8	4		
400SVS.160	**16**	16	0.3x45°	34	49	92	15.8	4		
400SVS.200	**20**	20	0.3x45°	40	55	104	19.8	4		

→ Help 12-13



*d1 ≤ ø 6 h9
d1 ≤ ø20 f7



Example ø6mm:
GOLD = 400SVS.060
HYPER = 400SVS.060**H**

Fresa Torica a Divisione Irregolare-Elica Variabile in metallo duro integrale

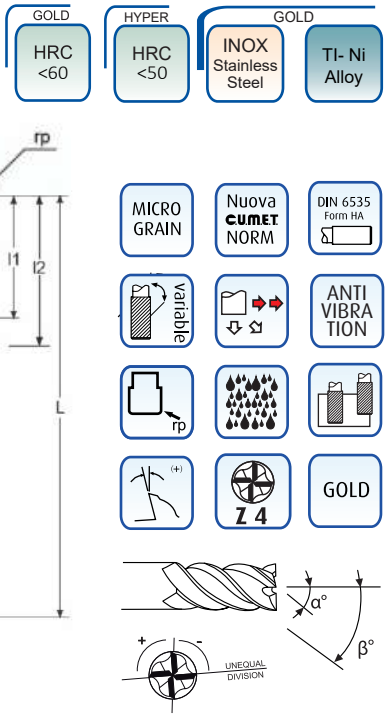
Solid carbide end mill, unequal division - Variable Helix



VHM-Torusfräser Ungleiche Drallwinkel-Ungleike Teilung - Fraise end carbur avec rayon d'angle, Irrégulière Division-Hélice Variable
Фреза концевая твердосплавная с угловым радиусом с переменным углом наклона винтовой канавки
Sk fréza s rohovým rádiusem a nerovnoměrným úhlem šroubovice - Variabilní helix

CODE	*d1 mm	d2 mm	Rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	Euro HYPER	Euro GOLD
500RVS.030R05	**3**	6	0.5	10	13	57	2.8	4		
500RVS.040R05	**4**	6	0.5	12	17	57	3.8	4		
500RVS.050R05	**5**	6	0.5	13	20	57	4.8	4		
500RVS.060R05	**6**	6	0.5	13	21	57	5.8	4		
500RVS.060R1	**6**	6	1.0	13	21	57	5.8	4		
500RVS.080R05	**8**	8	0.5	19	27	63	7.6	4		
500RVS.080R1	**8**	8	1.0	19	27	63	7.6	4		
500RVS08100R15	**8**	8	0.5	22	-	100	-	4		
500RVS08100R1	**8**	8	1.0	22	-	100	-	4		
500RVS08100R15	**8**	8	1.5	22	-	100	-	4		
500RVS08100R2	**8**	8	2.0	22	-	100	-	4		
500RVS.100R05	**10**	10	0.5	22	32	72	9.5	4		
500RVS.100R1	**10**	10	1.0	22	32	72	9.5	4		
500RVS10100R05	**10**	10	0.5	25	-	100	-	4		
500RVS10100R1	**10**	10	1.0	25	-	100	-	4		
500RVS10100R15	**10**	10	1.5	25	-	100	-	4		
500RVS10100R2	**10**	10	2.0	25	-	100	-	4		
500RVS.120R05	**12**	12	0.5	26	38	83	11.5	4		
500RVS.120R1	**12**	12	1.0	26	38	83	11.5	4		
500RVS12100R05	**12**	12	0.5	27	-	100	-	4		
500RVS12100R1	**12**	12	1.0	27	-	100	-	4		
500RVS12100R15	**12**	12	1.5	27	-	100	-	4		
500RVS12100R2	**12**	12	2.0	27	-	100	-	4		
500RVS.160R05	**16**	16	0.5	32	44	92	15.5	4		
500RVS.160R1	**16**	16	1.0	32	44	92	15.5	4		
500RVS.160R2	**16**	16	2.0	32	44	92	15.5	4		
500RVS16100R05	**16**	16	0.5	32	-	100	-	4		
500RVS16100R1	**16**	16	1.0	32	-	100	-	4		
500RVS16100R2	**16**	16	2.0	32	-	100	-	4		
500RVS.200R1	**20**	20	1.0	38	54	104	19.5	4		
500RVS.200R2	**20**	20	2.0	38	54	104	19.5	4		
500RVS.200R3	**20**	20	3.0	38	54	104	19.5	4		
500RVS.200R4	**20**	20	4.0	38	54	104	19.5	4		

→ Help 12-13



*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

Example ø6mm:
GOLD = 500RVS.060R05
HYPER = 500RVS.060R05**H**



Fresa a Divisione Irregolare-Elica Variabile in metallo duro integrale

Solid carbide end mill, unequal division - Variable Helix



VHM-Torusfräser Ungleiche Drallwinkel-Ungleike Teilung - Fraise end carbur avec rayon d'angle, Irrégulière Division-Hélice Variable
Фреза концевая твердосплавная с угловым радиусом с переменным углом наклона винтовой канавки
Sk fréza s rohovým rádiusem a nerovnoměrným úhlem šroubovice - Variabilní helix

CODE	*d1 mm	d2 mm	R mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	Euro HYPER	Euro GOLD
400RTVS.030	3	6	1.5	9	12	57	2.8	4		
400RTVS.040	4	6	2	11	16	57	3.8	4		
400RTVS.050	5	6	2.5	13	20	57	4.8	4		
400RTVS.060	6	6	3	13	23	57	5.8	4		
400RTVS.080	8	8	4	22	32	63	7.8	4		
400RTVS.100	10	10	5	25	34	72	9.8	4		
400RTVS.120	12	12	6	27	42	83	11.8	4		
400RTVS.140	14	14	7	30	45	83	13.8	4		
400RTVS.160	16	16	8	34	49	92	15.8	4		
400RTVS.200	20	20	10	40	55	104	19.8	4		

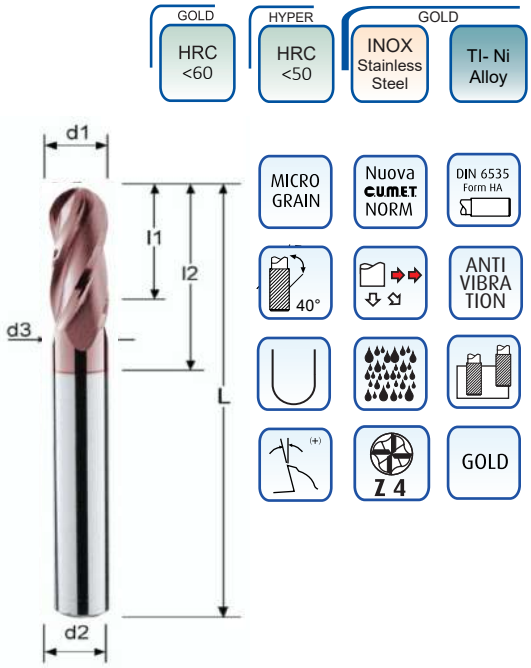
→ Help 12-13

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7



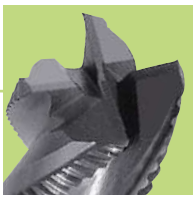
Example ø6mm:
GOLD = 400RTVS.060
HYPER = 400RTVS.060**H**





Fresa rompitruciolo antivibrante in metallo duro integrale

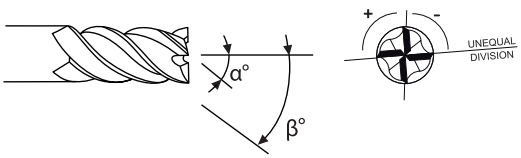
Solid carbide anti-vibration roughing end mill

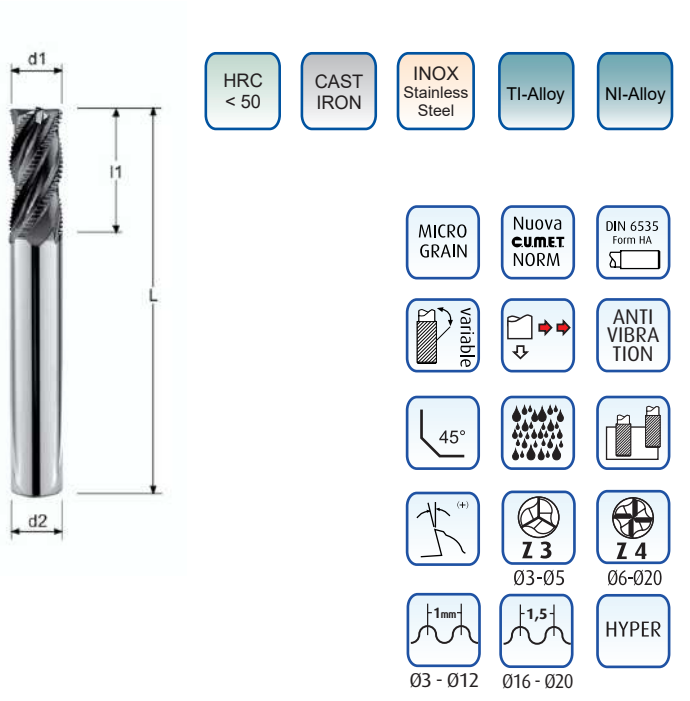


VHM - Schruppfräser Schwingungsdampfer - Fraise carbure à dégrossir à Haute Performance
Фреза концевая твердосплавная для черновой обработки высокопроизводительная
Sk hrubovací vysoce výkonná fréza

CODE	d1h11 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
T2201S03050	3	6	8	50	3	
T2201S04050	4	6	12	50	3	
T2201S05050	5	6	15	50	3	
T2201S06050	6	6	16	50	4	
T2201S08060	8	8	22	60	4	
T2201S10070	10	10	25	72	4	
T2201S10100	10	10	45	100	4	
T2201S12075	12	12	27	75	4	
T2201S12100	12	12	45	100	4	
T2201S16092	16	16	30	92	4	
T2201S20100	20	20	40	104	4	

→ Help 12





Fresa rompitruciolo in metallo duro integrale

Solid carbide roughing end mill

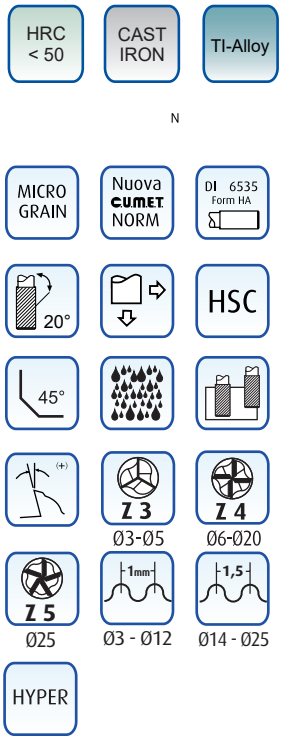
VHM - Schruppfräser - Fraise carbure profil ébauche
Фреза концевая твердосплавная для черновой обработки - Sk hrubovací fréza



CODE	d1h11 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
T2203S03050	**3**	6	8	50	3	
T2203S04050	**4**	6	12	50	3	
T2203S05050	**5**	6	15	50	3	
T2203S06050	**6**	6	20	50	4	
T2203S08060	**8**	8	22	60	4	
T2203S10070	**10**	10	25	72	4	
T2203S12075	**12**	12	27	75	4	
T2203S16092	**16**	16	30	92	4	
T2203S20100	**20**	20	40	104	4	

→ Help 17

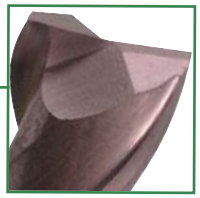




Fresa testa piana in metallo duro integrale

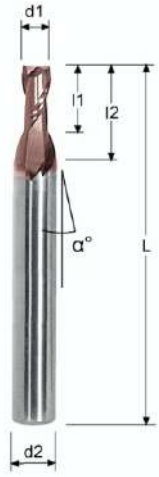
Solid carbide flat nose end mill

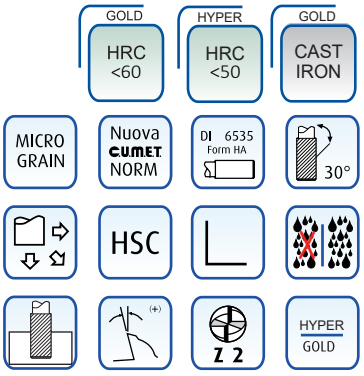
VHM - Schaftfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с прямым зубом - Sk rohová fréza



CODE	d1h9 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER GOLD
201S.010.4	**1**	4	2	50	2	
201S.010	**1**	6	2.5	50	2	
201S.015.4	**1.5**	4	3	50	2	
201S.015	**1.5**	6	4	50	2	
201S.020.4	**2**	4	4	50	2	
201S.020	**2**	6	6	50	2	
201S.025	**2.5**	6	6	50	2	
201S.030.4	**3**	4	6	50	2	
201S.030	**3**	6	7	50	2	
201S.035	**3.5**	6	7	50	2	
201S.040	**4**	6	8	50	2	
201S.045	**4.5**	6	9	50	2	
201S.050	**5**	6	10	50	2	
201S.055	**5.5**	6	10	50	2	
201S.060	**6**	6	12	50	2	

→ Help18-19



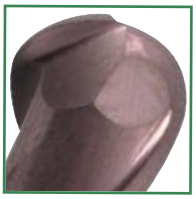


Example ø6mm:
GOLD = 201S.060
HYPER = 201S.060**H**



Solid carbide ball nose end mill

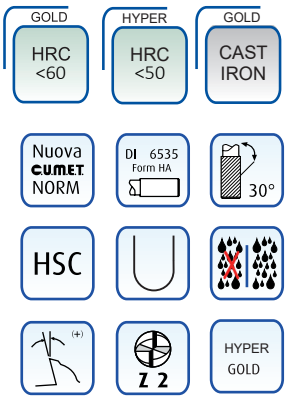
VHM - Radiusfräser - Fraise carbure à bout hémisphérique
Фреза концевая твердосплавная полусферическая - Sk kulová fréza



CODE	d1h9 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER GOLD
201RS.010.4	**1**	4	2	50	2	
201RS.010	**1**	6	2.5	50	2	
201RS.015.4	**1.5**	4	3	50	2	
201RS.015	**1.5**	6	4	50	2	
201RS.020.4	**2**	4	4	50	2	
201RS.020	**2**	6	6	50	2	
201RS.025	**2.5**	6	6	50	2	
201RS.030.4	**3**	4	6	50	2	
201RS.030	**3**	6	7	50	2	
201RS.035	**3.5**	6	7	50	2	
201RS.040	**4**	6	8	50	2	
201RS.045	**4.5**	6	9	50	2	
201RS.050	**5**	6	10	50	2	
201RS.055	**5.5**	6	10	50	2	
201RS.060	**6**	6	12	50	2	

→ Help 20





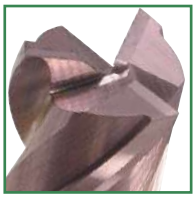
Example ø6mm:
GOLD = 201RS.060
HYPER = 201RS.060**H**



Fresa testa piana in metallo duro integrale

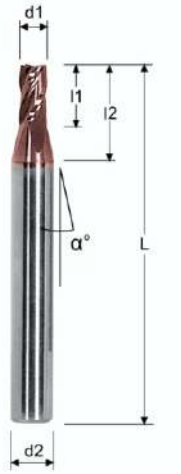
Solid carbide flat nose end mill

VHM - Schaftfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с прямым зубом - Sk roho



CODE	d1h9 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER GOLD
301S.010.4	**1**	4	2	50	3	
301S.010	**1**	6	2.5	50	3	
301S.015.4	**1.5**	4	3	50	3	
301S.015	**1.5**	6	4	50	3	
301S.020.4	**2**	4	5	50	3	
301S.020	**2**	6	6	50	3	
301S.025	**2.5**	6	6	50	3	
301S.030.4	**3**	4	7	50	3	
301S.030	**3**	6	7	50	3	
301S.035	**3.5**	6	7	50	3	
301S.040	**4**	6	8	50	3	
301S.045	**4.5**	6	9	50	3	
301S.050	**5**	6	10	50	3	
301S.055	**5.5**	6	10	50	3	
301S.060	**6**	6	12	50	3	

→ Help 18-19





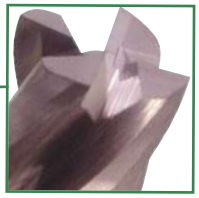
Example ø6mm:
GOLD = 301S.060
HYPER = 301S.060**H**



Fresa testa piana in metallo duro integrale

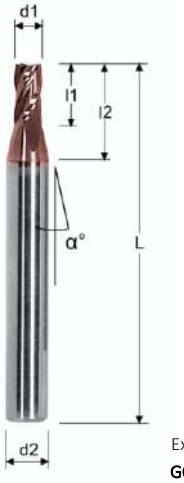
Solid carbide flat nose end mill

VHM - Schaftfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с прямым зубом - Sk rohová fréza



CODE	d1h9 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER GOLD
401S.010.4	**1**	4	2	50	4	
401S.010	**1**	6	2.5	50	4	
401S.015.4	**1.5**	4	3	50	4	
401S.015	**1.5**	6	4	50	4	
401S.020.4	**2**	4	5	50	4	
401S.020	**2**	6	6	50	4	
401S.025	**2.5**	6	6	50	4	
401S.030.4	**3**	4	7	50	4	
401S.030	**3**	6	7	50	4	
401S.035	**3.5**	6	7	50	4	
401S.040	**4**	6	8	50	4	
401S.045	**4.5**	6	9	50	4	
401S.050	**5**	6	10	50	4	
401S.055	**5.5**	6	10	50	4	
401S.060	**6**	6	12	50	4	

→ Help 18-19





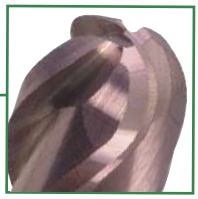
Example ø6mm:
GOLD = 401S.060
HYPER = 401S.060**H**



Fresa testa sferica in metallo duro integrale

Solid carbide ball nose end mill

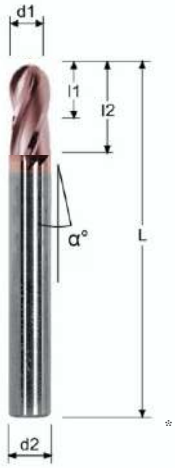
VHM - Radiusfräser - Fraise carbure à bout hémisphérique
Фреза концевая твердосплавная полусферическая - Sk kul

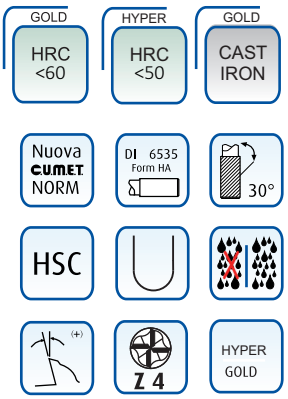


CODE	d1h9 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER	Euro GOLD
401RS.010	**1**	6	3	50	4		
401RS.015	**1.5**	6	4	50	4		
401RS.020	**2**	6	6	50	4		
401RS.025	**2.5**	6	6	50	4		
401RS.030	**3**	6	7	50	4		
401RS.035	**3.5**	6	7	50	4		
401RS.040	**4**	6	10	50	4		
401RS.045	**4.5**	6	10	50	4		
401RS.050	**5**	6	14	50	4		
401RS.055	**5.5**	6	14	50	4		
401RS.060	**6**	6	15	50	4		

d1 ≤ ø 6 h9
d1 ≤ ø20 f7

→ Help 20





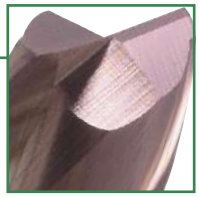
Example ø6mm:
GOLD = 401RS.060
HYPER = 401RS.060**H**



Fresa testa piana in metallo duro integrale

Solid carbide flat nose end mill

VHM - Schaftfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с плоским торцом - Sk rohová fréza

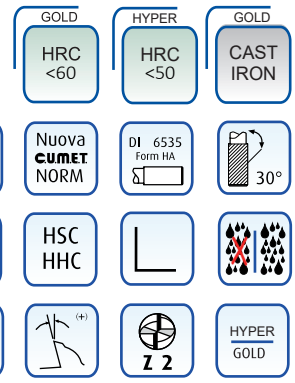


CODE	d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER	Euro GOLD
200TS.030	**3**	3	8	40	2		
200TS.040	**4**	4	10	50	2		
200TS.050	**5**	5	12	50	2		
200TS.060	**6**	6	12	50	2		
200TS.080	**8**	8	20	60	2		
200TS.100	**10**	10	22	72	2		
200TS.120	**12**	12	25	75	2		
200TS.140	**14**	14	30	85	2		
200TS.160	**16**	16	30	92	2		
200TS.200	**20**	20	40	100	2		

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

→ Help 18-19



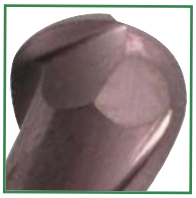


Example ø6mm:
GOLD = 200TS.060
HYPER = 200TS.060**H**



Solid carbide ball nose end mill

VHM - Radiusfräser - Fraise carbure à bout hémisphérique
Фреза концевая твердосплавная полусферическая - Sk kulová fréza



CODE	d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER	Euro GOLD
200RTS.030	**3**	3	8	40	2		
200RTS.040	**4**	4	10	50	2		
200RTS.050	**5**	5	12	50	2		
200RTS.060	**6**	6	12	50	2		
200RTS.080	**8**	8	20	60	2		
200RTS.100	**10**	10	22	72	2		
200RTS.120	**12**	12	25	75	2		
200RTS.160	**16**	16	30	92	2		
200RTS.200	**20**	20	40	100	2		

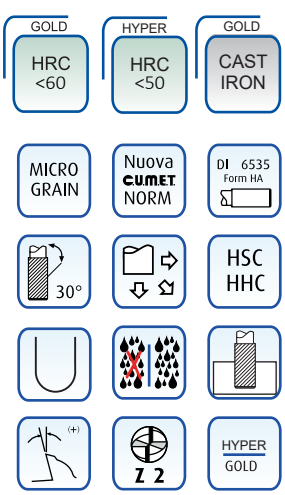
*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

→ Help 20

Example ø6mm:
GOLD = 200RTS.060
HYPER = 200RTS.060**H**







Fresa testa piana in metallo duro integrale

Solid carbide flat nose end mill

VHM - Schaftfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с плоским торцом - Sk rohová fréza



CODE	d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER	Euro GOLD
300TS.030	**3**	3	12	40	3		
300TS.040	**4**	4	16	50	3		
300TS.050	**5**	5	20	50	3		
300TS.060	**6**	6	20	50	3		
300TS.080	**8**	8	22	60	3		
300TS.100	**10**	10	25	72	3		
300TS.120	**12**	12	27	75	3		
300TS.160	**16**	16	30	92	3		
300TS.200	**20**	20	40	100	3		

→ Help 18-19

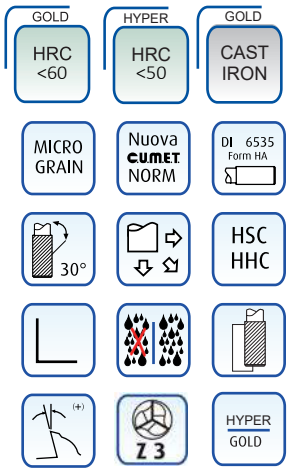
*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

Example ø6mm:
GOLD = 300TS.060
HYPER = 300TS.060**H**





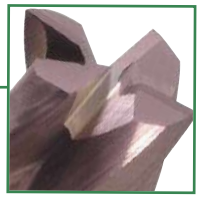
3



Fresa testa piana in metallo duro integrale

Solid carbide flat nose end mill

VHM - Schaftfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с плоским торцом - Sk rohová fréza



CODE	d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER	Euro GOLD
400TS.030	**3**	3	12	40	4		
400TS.040	**4**	4	16	50	4		
400TS.050	**5**	5	20	50	4		
400TS.060	**6**	6	20	50	4		
400TS.080	**8**	8	22	60	4		
400TS.100	**10**	10	25	72	4		
400TS.120	**12**	12	27	75	4		
400TS.140	**14**	14	30	85	4		
400TS.160	**16**	16	30	92	4		
400TS.200	**20**	20	40	100	4		

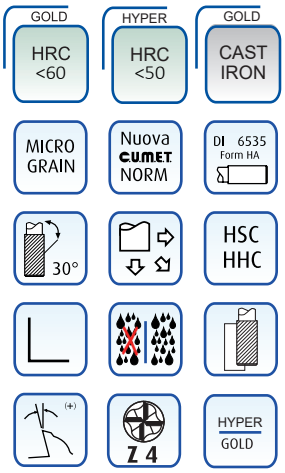
→ Help 18-19

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

Example ø6mm:
GOLD = 400TS.060
HYPER = 400TS.060**H**





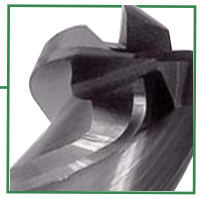


Fresa Torica in metallo duro integrale

Solid carbide corner radius end mill

VHM-torusfräser - Fraise carbure pour cuivre avec rayon d'angle

Фреза концевая твердосплавная с угловым радиусом для меди - Sk fréza s rohovým rádiusem

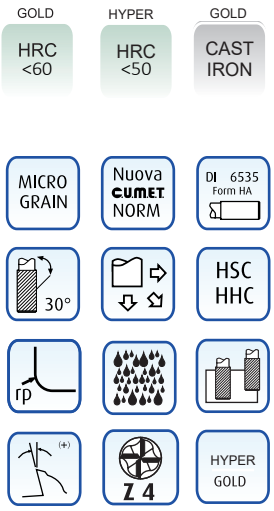


CODE	*d1 mm	d2 mm	Rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	Euro HYPER GOLD
400RPS.030R05	3	4	0.5	9	-	50	-	4	
400RPS.040R05	4	4	0.5	12	-	50	-	4	
400RPS.050R05	5	6	0.5	15	-	50	-	4	
400RPS.060R05	6	6	0.5	18	-	50	-	4	
400RPS.060R1	6	6	1.0	18	-	50	-	4	
400RPS.080R05	8	8	0.5	22	-	60	-	4	
400RPS.080R1	8	8	1.0	22	-	60	-	4	
400RPS.100R05	10	10	0.5	25	-	72	-	4	
400RPS.100R1	10	10	1.0	25	-	72	-	4	
400RPS.120R05	12	12	0.5	27	-	75	-	4	
400RPS.120R1	12	12	1.0	27	-	75	-	4	
400RPS.120R2	12	12	2.0	27	-	75	-	4	
400RPS.160R1	16	16	1.0	32	-	92	-	4	
400RPS.160R2	16	16	2.0	32	-	92	-	4	
400RPS.200R1	20	20	1.0	40	-	100	-	4	
400RPS.200R2	20	20	2.0	40	-	100	-	4	

*d1=h9

→ Help18-19





Example ø6mm:
GOLD = 400RPS.060R05
HYPER = 400RPS.060R05**H**

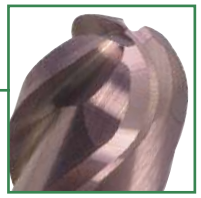


Fresa testa sferica in metallo duro integrale

Solid carbide ball nose end mill

VHM - Radiusfräser - Fraise carbure à bout hémisphérique

Фреза концевая твердосплавная полусферическая - Sk kulová fréza



CODE	d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro HYPER	Euro GOLD
400RTS.030	3	3	12	50	4		
400RTS.040	4	4	16	50	4		
400RTS.050	5	5	20	50	4		
400RTS.060	6	6	20	50	4		
400RTS.080	8	8	22	60	4		
400RTS.100	10	10	25	72	4		
400RTS.120	12	12	27	75	4		
400RTS.160	16	16	30	92	4		
400RTS.200	20	20	40	100	4		

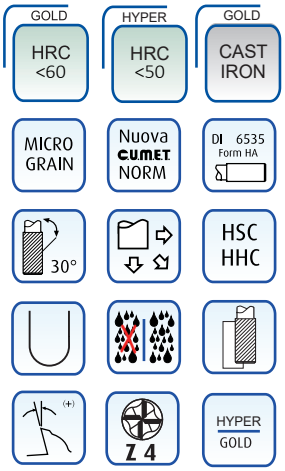
→ Help20

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

Example ø6mm:
GOLD = 400RTS.060
HYPER = 400RTS.060**H**

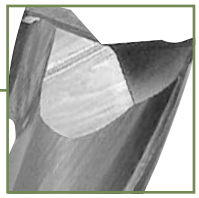






Fresa testa torcia antivibrante ad alto avanzamento in metallo duro integrale

Solid carbide corner radius end mill high feed



VHM- Stirn RadiusFräser High feed - Fraise carbure avec rayon d'angle à Haute avancement
Sk vysokorychlostní fréza s rohovým rádiusem

CODE	*d1 mm	d2h6 mm	rp-CH mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	Euro
Y703S.030	**3**	6	0.05x45°	3	10	60	5.8	2	
Y703S.030.03	**3**	6	0.3	3	10	60	5.8	2	
Y703S.040	**4**	6	0.05x45°	3	10	60	5.8	2	
Y703S.040.05	**4**	6	0.5	3	10	60	5.8	2	
Y703S.050.05	**5**	6	0.5	3	10	60	5.8	2	
Y703S.060	**6**	6	0.05x45°	6	18	60	5.8	2	
Y703S.060.05	**6**	6	0.5	6	18	60	5.8	2	
Y703S.080	**8**	8	0.05x45°	8	24	75	7.8	2	
Y703S.080.05	**8**	8	0.5	8	24	75	7.8	2	
Y703S.100	**10**	10	0.05x45°	10	30	80	9.7	2	
Y703S.100.05	**10**	10	0.5	10	30	80	9.7	2	
Y703S.120	**12**	12	0.05x45°	12	36	100	11.7	2	
Y703S.120.05	**12**	12	0.5	12	36	100	11.7	2	
Y703S.160	**16**	16	0.05x45°	16	50	100	15.5	2	
Y703S.160.05	**16**	16	0.5	16	50	100	15.5	2	
Y703S.200	**20**	20	0.05x45°	20	60	100	19.5	2	
Y703S.200.1	**20**	20	1.0	20	60	100	19.5	2	

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

→ Help 16



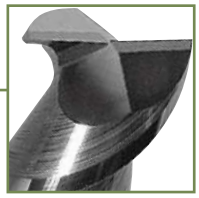
AL Alloy

MICRO GRAIN | Nuova CUMET NORM | DIN 6535 Form HA | 10° | HSC | rp | 45° | (+) | Z 2 | UNCOATED | LAPPED

Fresa Alufast ad alto avanzamento testa piana in metallo duro itegrale

Alufast solid carbide high feed flat nose end mill

HIGH FEED

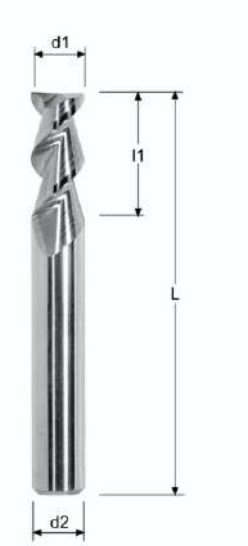


VHM-Alufast Gesenkfraser - Fraise carbure Alufast à bout plat
Sk rohová fréza alufast

CODE	*d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
755S.030	**3**	6	9	57	2	
755S.040	**4**	6	12	57	2	
755S.050	**5**	6	15	57	2	
755S.060	**6**	6	18	57	2	
755S.080	**8**	8	20	63	2	
755S.100	**10**	10	25	70	2	
755S.120	**12**	12	25	75	2	
755S.160	**16**	16	32	92	2	
755S.200	**20**	20	40	100	2	

→ Help 15

*d1 ≤ ø 6 h9
d1 ≤ ø20 h7



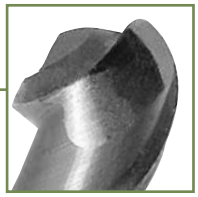
Aluminium

MICRO GRAIN | DIN NORM | DIN 6535 Form HA | 55° | HSC | L | OIL AIR | (-) | Z 2 | UNCOATED

Fresa testa sferica 3D in metallo duro integrale

Solid carbide 3D ball nose end mill

VHM - 3D Radiusfräser - Fraise carbure 3D hémisphérique
Фреза концевая твердосплавная полусферическая 3D - Sk 3D kulová fréza

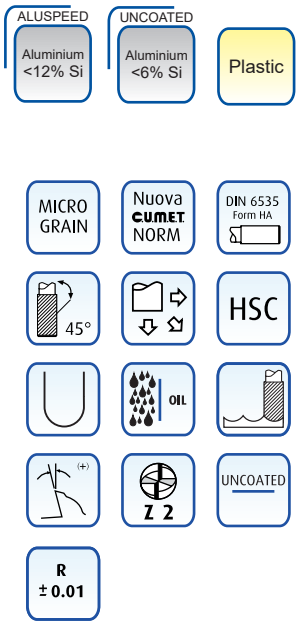


Code UNCOATED	*d1 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
700SRS.030	**3**	6	10	75	2	
700SRS.040	**4**	6	10	75	2	
700SRS.060	**6**	6	15	100	2	
700SRS.080	**8**	8	20	100	2	
700SRS.100	**10**	10	25	100	2	
700SRS.120	**12**	12	25	100	2	
700SRS.160	**16**	16	30	100	2	
700SRS.200	**20**	20	30	100	2	

→ **Help 20**

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

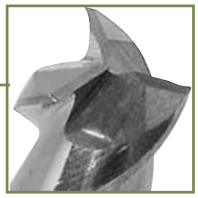




Fresa testa piana in metallo duro integrale

Solid carbide flat nose end mill

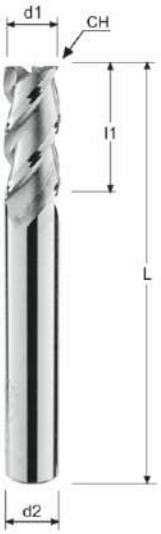
VHM - Gesenkfräser - Fraise carbure à bout plat
Фреза концевая твердосплавная с плоским торцом - Sk rohová fréza

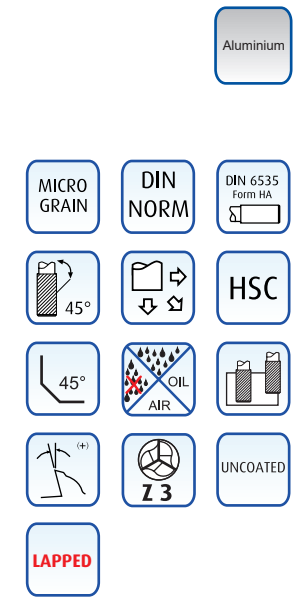


CODE	*d1 mm	d2h6 mm	CH mm	l1 mm	L mm	Z no.	Euro
456S.030	**3**	6	0.05	10	57	3	
456S.040	**4**	6	0.05	15	57	3	
456S.050	**5**	6	0.05	18	57	3	
456S.060	**6**	6	0.05	20	57	3	
456S.080	**8**	8	0.05	25	63	3	
456S.100	**10**	10	0.05	25	72	3	
456S.120	**12**	12	0.05	30	83	3	
456S.160	**16**	16	0.05	32	92	3	
456S.200	**20**	20	0.05	38	100	3	

→ **Help 17**

*d1 ≤ ø 6 h9
d1 ≤ ø20 f7

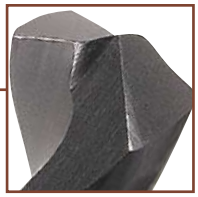




Punta ad alte prestazioni in metallo duro integrale

Solid carbide high performance twist drill

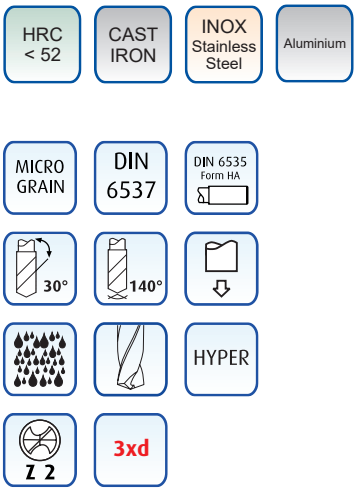
VHM - Hochleistungsböhrer - Foret carbure à haut performance
Сверло спиральное твердосплавное высокопроизводительное - Sk vysoce výkonný vrták



CODE	d1m7 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
122TS...	**3.0-3.7**	6	20	60	2	
122TS...	**3.8-4.7**	6	24	66	2	
122TS...	**4.8-6.0**	6	28	66	2	
122TS...	**6.1-7.0**	8	34	79	2	
122TS...	**7.1-8.0**	8	41	79	2	
122TS...	**8.1-10**	10	45	89	2	
122TS...	**10.1-12**	12	55	102	2	
122TS...	**12.2-14**	14	60	107	2	
122TS...	**14.5-16**	16	65	115	2	
122TS...	**16.5-18**	18	73	123	2	
122TS...	**18.5-20**	20	79	131	2	

Order Example:
Ø6.3=122TS.063





Punta ad alte prestazioni in metallo duro integrale

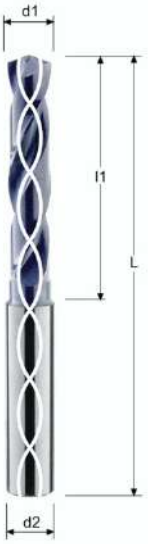
Solid carbide high performance twist drill

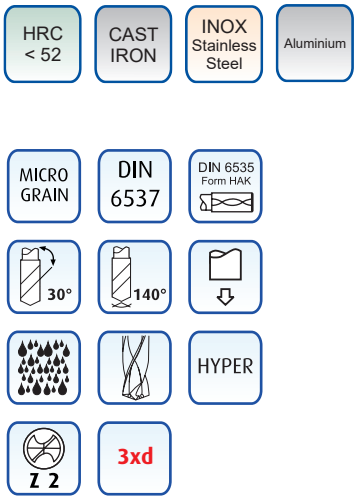
VHM - Hochleistungsböhrer - Foret carbure à haut performance
Сверло спиральное твердосплавное высокопроизводительное - Sk vysoce výkonný vrták



CODE	d1m7 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
122FS...	**3.0-3.7**	6	20	60	2	
122FS...	**3.8-4.7**	6	24	66	2	
122FS...	**4.8-6.0**	6	28	66	2	
122FS...	**6.1-7.0**	8	34	79	2	
122FS...	**7.1-8.0**	8	41	79	2	
122FS...	**8.1-10**	10	45	89	2	
122FS...	**10.1-12**	12	55	102	2	
122FS...	**12.2-14**	14	60	107	2	
122FS...	**14.5-16**	16	65	115	2	
122FS...	**16.5-18**	18	73	123	2	
122FS...	**18.5-20**	20	79	131	2	

Order Example:
Ø6.3=122FS.063

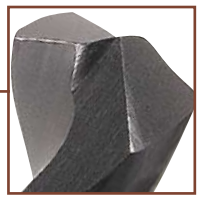




Punta ad alte prestazioni in metallo duro integrale

Solid carbide high performance twist drill

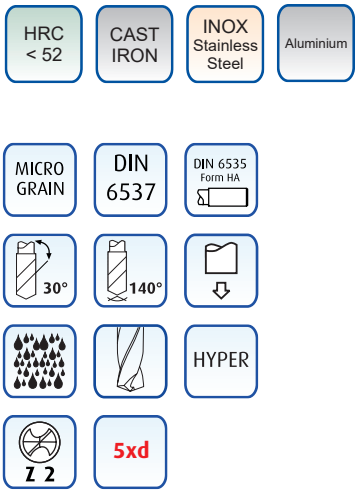
VHM - Hochleistungsböhrer - Foret carbure à haut performance
Сверло спиральное твердосплавное высокопроизводительное - Sk vysoce výkonný vrták



CODE	d1m7 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
122TLS...	0.5-0.9	3	10	50	2	
122TLS...	1.0-1.5	3	12	55	2	
122TLS...	1.6-2.0	3	16	55	2	
122TLS...	2.1-2.9	3	21	57	2	
122TLS...	3.0-3.7	6	28	66	2	
122TLS...	3.8-4.7	6	36	74	2	
122TLS...	4.8-6.0	6	44	82	2	
122TLS...	6.1-8.0	8	53	91	2	
122TLS...	8.1-10	10	61	103	2	
122TLS...	10.1-12	12	71	118	2	
122TLS...	12.2-14	14	77	124	2	
122TLS...	14.5-16	16	83	133	2	
122TLS...	16.5-18	18	93	143	2	
122TLS...	18.5-20	20	101	153	2	

Order Example:
Ø6.3=122TLS.063





Punta ad alte prestazioni in metallo duro integrale

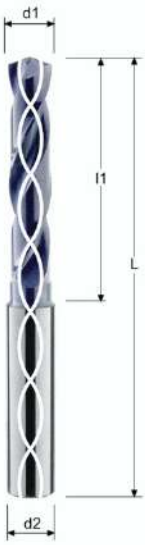
Solid carbide high performance twist drill

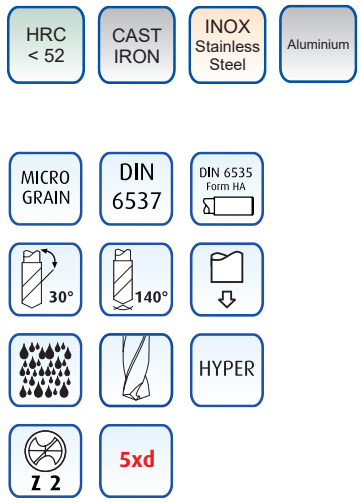
VHM - Hochleistungsböhrer - Foret carbure à haut performance
Сверло спиральное твердосплавное высокопроизводительное - Sk vysoce výkonný vrták



CODE	d1m7 mm	d2h6 mm	l1 mm	L mm	Z no.	Euro
122FLS...	1.0-1.5	3	12	50	2	
122FLS...	1.6-2.0	3	16	55	2	
122FLS...	2.1-2.9	3	21	55	2	
122FLS...	3.0-3.7	6	28	57	2	
122FLS...	3.8-4.7	6	36	66	2	
122FLS...	4.8-6.0	6	44	74	2	
122FLS...	6.1-8.0	8	53	82	2	
122FLS...	8.1-10	10	61	91	2	
122FLS...	10.1-12	12	71	103	2	
122FLS...	12.2-14	14	77	118	2	
122FLS...	14.5-16	16	83	124	2	
122FLS...	16.5-18	18	93	133	2	
122FLS...	18.5-20	20	101	143	2	

Order Example:
Ø6.3=122FL.063





Sets



400SVS PAGE 1
SET400SVS.681012
6mm | 8mm | 10mm | 12mm

500RVS PAGE 1
SET500RVS.681012R05
SET500RVS.681012R1
6mm | 8mm | 10mm | 12mm

T2201S PAGE 2
SETT2203S.681012
6mm | 8mm | 10mm | 12mm

T2203S PAGE2
SETT2203S.681012
6mm | 8mm | 10mm | 12mm

201S PAGE 3
SET201S.123456S4
1mm SHANK 4 | 2mm SHANK 4 | 3mm SHANK 4 | 4mm | 5mm |
6mm SET201S.123456S6
1mm SHANK 6 | 2mm SHANK 6 | 3mm SHANK 6 | 4mm | 5mm | 6mm

201RS PAGE 3
SET201RS.123456S4
1mm SHANK 4 | 2mm SHANK 4 | 3mm SHANK 4 | 4mm | 5mm | 6mm
SET201RS.123456S6
1mm SHANK 6 | 2mm SHANK 6 | 3mm SHANK 6 | 4mm | 5mm | 6mm

401S PAGE 4
SET401S.123456S4
1mm SHANK 4 | 2mm SHANK 4 | 3mm SHANK 4 | 4mm | 5mm |
6mm SET401S.123456S6
1mm SHANK 6 | 2mm SHANK 6 | 3mm SHANK 6 | 4mm | 5mm | 6mm

755S PAGE 7
SET755S.681012
6mm | 8mm | 10mm | 12mm

456S PAGE 8
SET456S.681012
6mm | 8mm | 10mm | 12mm

Y703S PAGE 7
SETY703S.681012CH0.05
SETY703S.681012R05
6mm | 8mm | 10mm | 12mm

400RPS PAGE 6
SET400RPS.681012R05
SET400RPS.681012R1
6mm | 8mm | 10mm | 12mm



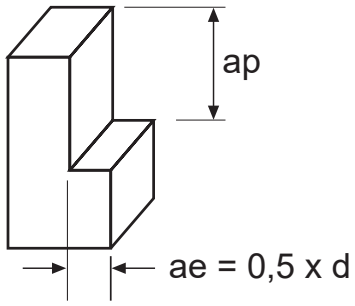
XMD SET LIME ROTATIVE - ROTARY FILES SET
XMD203-3 N°20PCS 3mm STANDARD CUT 03
XMD203-4 N°20PCS 3mm DIAMOND CUT 04
XMD203-6 N°20PCS 3mm DOUBLE CUT 06

Tutti i set sono preparati a ricevimento ordine / All Sets are made to order / *Alle Sätze werden auf Bestellung angefertigt*

Parametri di taglio

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost

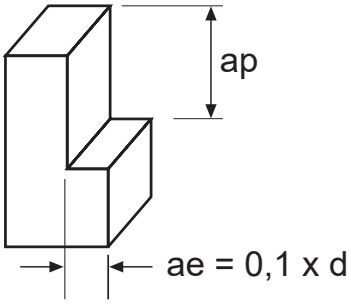


CODE: 400SVS - 500RVS - 400RTVS - T2201S ROUGHING

MATERIAL	APPLICATION	ROUGHING									
			FZ mm/tooth								
		VC m/min	Ø 3	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20
Construction steel 500 N/mm2	ap=1xd ap=2xd (ae=0.25xd)	170-200 110-130	0.024 0.016	0.028 0.021	0.041 0.027	0.058 0.035	0.073 0.044	0.09 0.052	0.1 0.058	0.11 0.063	0.13 0.08
Construction steel 510-800 N/mm2	ap=1xd ap=2xd	160-188 100-125	0.022 0.015	0.026 0.02	0.036 0.031	0.052 0.042	0.066 0.05	0.085 0.058	0.093 0.065	0.1 0.071	0.12 0.09
Tooling steel 850-1000 N/mm2	ap=1xd ap=2xd (ae=0.25xd)	70-90 80-100	0.016 0.01	0.021 0.015	0.029 0.025	0.042 0.032	0.053 0.039	0.063 0.048	0.071 0.053	0.079 0.058	0.097 0.073
Stainless steel 850 N/mm2	ap=1xd	95-115	0.019	0.024	0.039	0.053	0.065	0.079	0.087	0.095	0.11
Tooling steel <60 HRC	ap=1xd	45-55	0.015	0.02	0.031	0.042	0.05	0.059	0.065	0.071	0.09
Super Alloy 850-1000 N/mm2	ap=1xd ap=2xd (ae=0.25xd)	150-185 95-120	0.019 0.01	0.024 0.015	0.039 0.027	0.053 0.035	0.065 0.044	0.079 0.052	0.087 0.058	0.095 0.063	0.11 0.08
Super Alloy 1000-1200 N/mm2	ap=1xd ap=2xd (ae=0.25xd)	125-150 80-100	0.013 0.01	0.02 0.015	0.033 0.025	0.047 0.032	0.059 0.039	0.072 0.048	0.08 0.052	0.088 0.058	0.1 0.073
Inconell 1200 N/mm2	ap=1xd	56-70	0.013	0.02	0.033	0.047	0.059	0.072	0.08	0.088	0.1
Cast iron 240 HB	ap=1xd ap=2xd (ae=0.25xd)	220-270 140-170	0.022 0.015	0.026 0.02	0.036 0.031	0.052 0.042	0.066 0.05	0.085 0.058	0.093 0.065	0.1 0.071	0.12 0.09
Cast iron <300 HB	ap=1xd ap=2xd (ae=0.25xd)	115-140 130-160	0.019 0.01	0.024 0.016	0.039 0.027	0.053 0.064	0.065 0.044	0.079 0.052	0.087 0.058	0.095 0.063	0.011 0.08
Titanium <850 N/mm2	ap=1xd ap=2xd (ae=0.25xd)	90-110 60-70	0.013 0.01	0.02 0.015	0.033 0.025	0.047 0.032	0.059 0.039	0.072 0.048	0.08 0.053	0.088 0.058	0.01 0.073
Titanium 850-1200 N/mm2	ap=1xd ap=2xd (ae=0.25xd)	75-90 50-60	0.016 0.01	0.021 0.015	0.029 0.024	0.042 0.032	0.053 0.038	0.063 0.046	0.071 0.05	0.079 0.054	0.097 0.066
Aluminium	ap=1xd ap=2xd (ae=0.25xd)	500-650	0.016	0.021	0.029	0.042	0.053	0.063	0.071	0.079	0.097
Copper	ap=1xd ap=2xd (ae=0.25xd)	210-260 140-171	0.022 0.015	0.026 0.02	0.036 0.031	0.052 0.042	0.066 0.05	0.085 0.059	0.093 0.065	0.1 0.071	0.12 0.09

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost



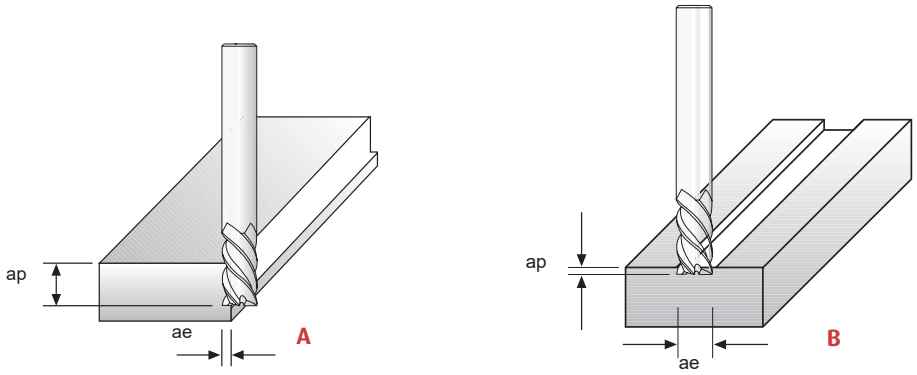
CODE: 400SVS - 500RVS - 400RTVS FINISHING

MATERIAL	APPLICATION	FINISHING								
			FZ mm/tooth							
		VC m/min	Ø 3	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 20
Construction steel 500 N/mm2	ap=1xd ap=2xd	210-250 140-170	0.01 0.01	0.015 0.015	0.025 0.025	0.032 0.032	0.039 0.039	0.048 0.048	0.053 0.053	0.058 0.058	0.073 0.073
Construction steel 510-800 N/mm2	ap=1xd ap=2xd	190-230 125-155	0.013 0.01	0.039 0.015	0.033 0.024	0.047 0.032	0.059 0.038	0.072 0.046	0.08 0.05	0.088 0.054	0.1 0.066
Tooling steel 850-1000 N/mm2	ap=1xd ap=2xd	160-200 100-125	0.015 0.004	0.02 0.007	0.031 0.013	0.042 0.019	0.05 0.025	0.059 0.03	0.065 0.034	0.071 0.038	0.09 0.045
Stainless steel 850 N/mm2	ap=1xd	70-90	0.016	0.021	0.029	0.042	0.053	0.063	0.071	0.079	0.097
Tempered steel <60 HRC	ap=1xd	60-75	0.007	0.016	0.017	0.024	0.03	0.036	0.041	0.045	0.057
Super Alloy 850-1000 N/mm2	ap=1xd ap=2xd	180-230 120-140	0.016 0.007	0.021 0.016	0.029 0.017	0.042 0.024	0.053 0.03	0.063 0.036	0.071 0.041	0.079 0.045	0.097 0.057
Super Alloy 1000-1200 N/mm2	ap=1xd ap=2xd	155-190 100-125	0.015 0.004	0.02 0.007	0.031 0.013	0.042 0.019	0.05 0.025	0.059 0.03	0.065 0.034	0.071 0.038	0.09 0.045
Inconell	ap=1xd	70-90	0.015	0.02	0.031	0.042	0.05	0.059	0.065	0.071	0.09
Cast iron 240 HB	ap=1xd ap=2xd	255-313 180-220	0.013 0.01	0.02 0.015	0.033 0.024	0.047 0.032	0.059 0.038	0.072 0.046	0.08 0.05	0.088 0.054	0.1 0.065
Cast iron <300 HB	ap=1xd ap=2xd	250-313 160-200	0.016 0.007	0.021 0.011	0.029 0.017	0.042 0.024	0.053 0.03	0.063 0.036	0.071 0.041	0.079 0.045	0.097 0.057
Titanium <850 N/mm2	ap=1xd ap=2xd	120-145 80-95	0.015 0.004	0.02 0.007	0.031 0.013	0.042 0.019	0.05 0.025	0.059 0.03	0.065 0.034	0.071 0.038	0.09 0.045
Titanium Alloy	ap=1xd ap=2xd	100-120 60-75	0.01 0.003	0.015 0.006	0.027 0.011	0.035 0.016	0.044 0.021	0.052 0.026	0.058 0.029	0.0.63 0.032	0.08 0.038
Aluminium	ap=2xd	600-740	0.015	0.02	0.031	0.042	0.05	0.059	0.065	0.071	0.09
Copper	ap=2xd	180-220	0.01	0.015	0.027	0.035	0.044	0.052	0.058	0.063	0.08

Parametri di taglio

Cutting speed

Richtwerte - Paramétres
Режимы обработки - Řezná rychlost



CODE: 755S

	Slot Milling B						
MATERIAL	**Aluminium Alloy** - АЛЮМИНИЙ						
HARDNESS							
	Vc	**Fz**	**n**	**Vf Min.**	**Vf Max**	**ae**	**ap**
Ø	**m/min**	**mm**	**min/'**	**mm/min**	**mm/min**	**mm**	**mm**
3	200	0.024	21231	1000	1200	3.0	3.0
4	250	0.025	19904	1000	1200	4.0	4.0
5	300	0.026	19108	1000	1200	5.0	5.0
6	400	0.066	21231	2800	4000	6.0	6.0
8	400	0.094	15924	3000	4000	8.0	8.0
10	400	0.141	12739	3600	4500	10.0	10.0
12	400	0.170	10616	3600	4500	12.0	12.0
16	450	0.201	8957	3600	4500	16.0	16.0
20	450	0.223	7166	3200	4300	20.0	20.0

CODE: 456S

	Side Milling A						Slot Milling B					
MATERIAL	**Aluminium Alloy** - АЛЮМИНИЙ						**Aluminium Alloy** - АЛЮМИНИЙ					
HARDNESS												
	Vc	**Fz**	**n**	**Vf**	**ae**	**ap**	**Vc**	**Fz**	**n**	**Vf**	**ae**	**ap**
Ø	**m/min**	**mm**	**min/'**	**mm/min**	**mm**	**mm**	**m/min**	**mm**	**min/'**	**mm/min**	**mm**	**mm**
3	550	0.045	58400	7880	1.20	3.6	450	0.030	47800	4300	3	1
4	550	0.060	43770	7880	1.60	4.8	450	0.040	35900	4300	4	2
5	550	0.075	35015	7880	2.00	6.0	450	0.055	28700	4725	5	2
6	550	0.100	29200	8760	2.40	7.2	450	0.070	23900	5015	6	2
8	550	0.120	21900	7890	3.20	9.6	450	0.085	17900	4656	8	3
10	550	0.150	17510	7890	4.00	12.0	450	0.105	14300	4510	10	4
12	550	0.180	14600	7890	4.80	14.4	450	0.125	11940	4475	12	5
16	550	0.190	10950	6235	6.40	19.2	450	0.135	9000	3625	16	6
20	550	0.225	8760	5900	8.00	24.0	450	0.160	7160	3435	20	8

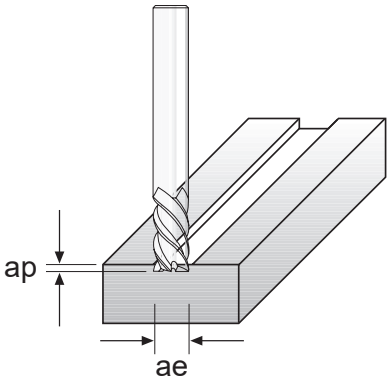
Parametri di taglio

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost

CODE: Y703S ROUGHING HIGH SPEED CUTTING

MATERIAL	Aluminium - АЛЮМИНИЙ				Copper - МЕДЬ			
HARDNESS								
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
3	500	0.021	1 x d	0.5 x d	300	0.015	1 x d	0.5 x d
4	500	0.028	1 x d	0.5 x d	300	0.016	1 x d	0.5 x d
5	500	0.035	1 x d	0.5 x d	300	0.020	1 x d	0.5 x d
6	500	0.045	1 x d	0.5 x d	300	0.024	1 x d	0.5 x d
8	500	0.056	1 x d	0.5 x d	300	0.032	1 x d	0.5 x d
10	500	0.070	1 x d	0.5 x d	300	0.040	1 x d	0.5 x d
12	500	0.084	1 x d	0.5 x d	300	0.048	1 x d	0.5 x d
16	500	0.112	1 x d	0.5 x d	300	0.064	1 x d	0.5 x d



CODE: Y703S ROUGHING HIGH SPEED CUTTING

MATERIAL	Thermo Plastic - ТЕРМО ПЛАСТИК							
HARDNESS	Soft				Harder			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
3	500	0.021	1 x d	0.5 x d	300	0.013	1 x d	0.5 x d
4	500	0.028	1 x d	0.5 x d	300	0.020	1 x d	0.5 x d
5	500	0.033	1 x d	0.5 x d	300	0.026	1 x d	0.5 x d
6	500	0.042	1 x d	0.5 x d	300	0.030	1 x d	0.5 x d
8	500	0.056	1 x d	0.5 x d	300	0.040	1 x d	0.5 x d
10	500	0.060	1 x d	0.5 x d	300	0.051	1 x d	0.5 x d
12	500	0.084	1 x d	0.5 x d	300	0.060	1 x d	0.5 x d
16	500	0.112	1 x d	0.5 x d	300	0.075	1 x d	0.5 x d

CODE: Y703S FINISHING HIGH SPEED CUTTING

MATERIAL	Aluminium - АЛЮМИНИЙ				Copper - МЕДЬ			
HARDNESS								
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
3	500	0.021	1 x d	0.050 x d	300	0.015	1 x d	0.030 x d
4	500	0.028	1 x d	0.050 x d	300	0.016	1 x d	0.030 x d
5	500	0.035	1 x d	0.050 x d	300	0.020	1 x d	0.030 x d
6	500	0.045	1 x d	0.050 x d	300	0.024	1 x d	0.030 x d
8	500	0.056	1 x d	0.050 x d	300	0.032	1 x d	0.030 x d
10	500	0.070	1 x d	0.050 x d	300	0.040	1 x d	0.030 x d
12	500	0.084	1 x d	0.050 x d	300	0.048	1 x d	0.030 x d
16	500	0.112	1 x d	0.050 x d	300	0.064	1 x d	0.030 x d

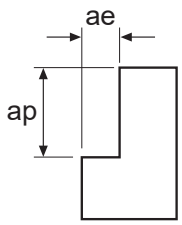
CODE: Y703S FINISHING HIGH SPEED CUTTING

MATERIAL	Thermo Plastic - ТЕРМО ПЛАСТИК							
HARDNESS	Soft				Harder			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
3	500	0.021	1 x d	0.030 x d	300	0.013	1 x d	0.020 x d
4	500	0.028	1 x d	0.030 x d	300	0.016	1 x d	0.020 x d
5	500	0.035	1 x d	0.030 x d	300	0.020	1 x d	0.020 x d
6	500	0.045	1 x d	0.030 x d	300	0.024	1 x d	0.020 x d
8	500	0.056	1 x d	0.030 x d	300	0.032	1 x d	0.020 x d
10	500	0.070	1 x d	0.030 x d	300	0.040	1 x d	0.020 x d
12	500	0.084	1 x d	0.030 x d	300	0.048	1 x d	0.020 x d
16	500	0.128	1 x d	0.030 x d	300	0.064	1 x d	0.020 x d

Parametri di taglio

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost



ae = 0,5 x d
ap = 1 x d

CODE: T2203S

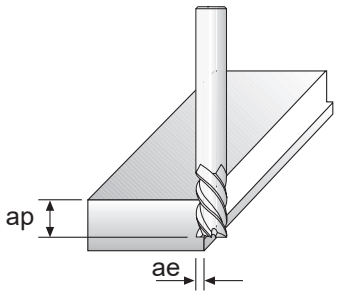
MATERIAL	HARDNESS	Ø									
		Ø 3.0		Ø 4.0		Ø 5.0		Ø 6.0		Ø 8.0	
		Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
Non Alloy Stee	< 500 N/mm	80-140	0.023	80-140	0.023	80-140	0.033	80-140	0.033	80-140	0.045
	< 700 N/mm	70-120	0.023	120	0.023	120	0.033	120	0.033	120	0.045
	< 800 N/mm	70-120	0.023	70-120	0.023	70-120	0.033	70-120	0.033	70-120	0.045
Alloy Stee	< 1000 N/mm	50-85	0.014	50-85	0.014	80-85	0.022	50-85	0.022	50-85	0.280
	< 1200 N/mm	40-70	0.013	40-70	0.013	40-70	0.020	40-70	0.020	40-70	0.025
High Alloy Steel	< 1000 N/mm	50-85	0.014	50-85	0.014	80-85	0.022	50-85	0.022	50-85	0.280
	< 1200 N/mm	40-70	0.013	40-70	0.013	40-70	0.020	40-70	0.020	40-70	0.025
Steel	< 50 HRC	35-45	0.013	35-45	0.013	35-45	0.015	35-45	0.015	35-45	0.015
	< 65 HRC	30-40	0.010	30-40	0.010	30-40	0.012	30-40	0.012	30-40	0.012
Stainless Steel	< 700 HRC	55-90	0.015	55-90	0.015	55-90	0.025	55-90	0.025	55-90	0.030
	< 850 HRC	45-85	0.012	45-85	0.012	45-85	0.017	45-85	0.017	45-85	0.025
Cast Iron	< 180 HB	70-130	0.010	70-130	0.020	70-130	0.030	70-130	0.030	70-130	0.040
	< 180 HB	60-100	0.010	60-100	0.020	60-100	0.030	60-100	0.030	60-100	0.040
Titanium		55-75	0.008	55-75	0.016	55-75	0.024	55-75	0.024	55-75	0.032
Inconel		50-70	0.090	50-70	0.090	50-70	0.015	50-70	0.015	50-70	0.015
Graphyte		100-200	0.014	100-200	0.014	100-200	0.014	100-200	0.028	100-200	0.056

MATERIAL	HARDNESS	Ø							
		Ø 10.0		Ø 12.0		Ø 14 - 16		Ø 18 - 20	
		Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
Non Alloy Steel	< 500 N/mm	80-140	0.060	80-140	0.080	80-140	0.100	80-140	0.120
	< 700 N/mm	120	0.060	120	0.080	120	0.100	120	0.120
	< 850 N/mm	70-120	0.060	70-120	0.080	70-120	0.100	70-120	0.120
Alloy Stee	< 1000 N/mm	50-85	0.035	50-85	0.045	50-85	0.060	50-85	0.080
	< 1200 N/mm	40-70	0.030	40-70	0.040	40-70	0.055	40-70	0.065
High Alloy Steel	< 1000 N/mm	50-85	0.035	50-85	0.045	50-85	0.060	50-85	0.080
	< 1200 N/mm	40-70	0.030	40-70	0.040	40-70	0.055	40-70	0.065
Steel	< 50 HRC	35-45	0.030	35-45	0.030	35-45	0.040	35-45	0.065
	< 65 HRC	30-40	0.020	30-40	0.020	30-40	0.030	30-40	0.050
Stainless Steel	< 700 HRC	55-90	0.040	55-90	0.050	55-90	0.055	55-90	0.090
	< 850 HRC	45-85	0.032	45-85	0.045	45-85	0.060	45-85	0.075
Cast Iron	< 180 HB	70-130	0.050	70-130	0.060	70-130	0.080	70-130	0.100
	< 180 HB	60-100	0.050	60-100	0.060	60-100	0.080	60-100	0.100
Titanium		55-75	0.040	55-75	0.050	55-75	0.060	55-75	0.070
Inconel		50-70	0.030	50-70	0.030	50-70	0.050	50-70	0.060
Graphyte		100-200	0.056	100-200	0.084	100-200	0.084	100-200	0.140

Parametri di taglio

Cutting speed

Richtwerte - Paramétres
Режимы обработки - Řezná rychlost



For finishing:
ae < 0,02 - 0,03 x d
ap < 0,8 x d
Vc = 1,2 x Vc (Parameter List)
Fz = 0,7 x Vc (Parameter List)

CODE: 200TS-201TS-301TS-400TS-400RPS

MATERIAL	Steel - СТАЛЬ											
HARDNESS	< 170 HRC				< 50 HRC				HRC 48 - 56			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1 - 3	130	0.012	0.2 x d	1 x d	110	0.013	0.1 x d	1 x d	60	0.010	0.05 x d	0.010 x d
4	130	0.024	0.2 x d	1 x d	110	0.026	0.1 x d	1 x d	60	0.020	0.05 x d	0.010 x d
5	130	0.024	0.2 x d	1 x d	110	0.026	0.1 x d	1 x d	60	0.020	0.05 x d	0.010 x d
6	130	0.024	0.2 x d	1 x d	110	0.026	0.1 x d	1 x d	60	0.020	0.05 x d	0.010 x d
8	130	0.048	0.2 x d	1 x d	110	0.052	0.1 x d	1 x d	60	0.040	0.05 x d	0.010 x d
10	130	0.048	0.2 x d	1 x d	110	0.052	0.1 x d	1 x d	60	0.040	0.05 x d	0.010 x d
12	130	0.072	0.2 x d	1 x d	110	0.078	0.1 x d	1 x d	60	0.060	0.05 x d	0.010 x d
14 - 18	130	0.072	0.2 x d	1 x d	110	0.078	0.1 x d	1 x d	60	0.060	0.05 x d	0.010 x d
20 - 25	130	0.120	0.2 x d	1 x d	110	0.130	0.1 x d	1 x d	60	0.100	0.05 x d	0.010 x d

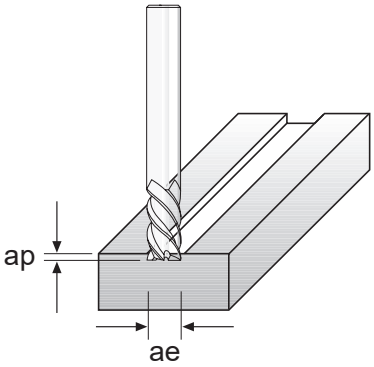
MATERIAL	Cast Iron - ЧУГУН								Copper - МЕДЬ			
HARDNESS	Nodulaire - ЧУГУН				Lamellaire - ЛАМЕЛАР							
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1 - 3	110	0.013	0.1 x d	1 x d	120	0.017	0.2 x d	1 x d	200	0.009	1 x d	0.3 x d
4	110	0.026	0.1 x d	1 x d	120	0.034	0.2 x d	1 x d	200	0.018	1 x d	0.3 x d
5	110	0.026	0.1 x d	1 x d	120	0.034	0.2 x d	1 x d	200	0.018	1 x d	0.3 x d
6	110	0.026	0.1 x d	1 x d	120	0.034	0.2 x d	1 x d	200	0.018	1 x d	0.3 x d
8	110	0.052	0.1 x d	1 x d	120	0.068	0.2 x d	1 x d	200	0.036	1 x d	0.3 x d
10	110	0.052	0.1 x d	1 x d	120	0.068	0.2 x d	1 x d	200	0.036	1 x d	0.3 x d
12	110	0.078	0.1 x d	1 x d	120	0.102	0.2 x d	1 x d	200	0.054	1 x d	0.3 x d
14 - 18	110	0.078	0.1 x d	1 x d	120	0.102	0.2 x d	1 x d	200	0.054	1 x d	0.3 x d
20 - 25	110	0.130	0.1 x d	1 x d	120	0.170	0.2 x d	1 x d	200	0.090	1 x d	0.3 x d

MATERIAL	Titanium - ТИТАН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
HARDNESS												
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1 - 3	80	0.011	0.1 x d	1 x d	70	0.012	0.1 x d	1 x d	30	0.012	0.08 x d	1 x d
4	80	0.023	0.1 x d	1 x d	70	0.024	0.1 x d	1 x d	30	0.024	0.08 x d	1 x d
5	80	0.023	0.1 x d	1 x d	70	0.024	0.1 x d	1 x d	30	0.024	0.08 x d	1 x d
6	80	0.023	0.1 x d	1 x d	70	0.024	0.1 x d	1 x d	30	0.024	0.08 x d	1 x d
8	80	0.046	0.1 x d	1 x d	70	0.047	0.1 x d	1 x d	30	0.048	0.08 x d	1 x d
10	80	0.046	0.1 x d	1 x d	70	0.047	0.1 x d	1 x d	30	0.048	0.08 x d	1 x d
12	80	0.068	0.1 x d	1 x d	70	0.071	0.1 x d	1 x d	30	0.072	0.08 x d	1 x d
14 - 18	80	0.068	0.1 x d	1 x d	70	0.071	0.1 x d	1 x d	30	0.072	0.08 x d	1 x d
20 - 25	80	0.114	0.1 x d	1 x d	70	0.118	0.1 x d	1 x d	30	0.120	0.08 x d	1 x d

Parametri di taglio

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost



CODE: 200TS-201TS-301TS-400TS-400RPS

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< 50HRC			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1-3	110	0.008	1 x d	0.1 x d	90	0.007	1 x d	0.1 x d
4	110	0.016	1 x d	0.1 x d	90	0.012	1 x d	0.1 x d
5	110	0.016	1 x d	0.1 x d	90	0.012	1 x d	0.1 x d
6	110	0.016	1 x d	0.1 x d	90	0.012	1 x d	0.1 x d
8	110	0.032	1 x d	0.1 x d	90	0.024	1 x d	0.1 x d
10	110	0.032	1 x d	0.1 x d	90	0.024	1 x d	0.1 x d
12	110	0.048	1 x d	0.1 x d	90	0.036	1 x d	0.1 x d
14 - 18	110	0.048	1 x d	0.1 x d	90	0.036	1 x d	0.1 x d
20 - 25	110	0.080	1 x d	0.1 x d	90	0.060	1 x d	0.1 x d

For finishing:
ae < 0,02 - 0,03 x d
ap < 0,8 x d
Vc = 1,2 x Vc (Parameter List)
Fz = 0,7 x Vc (Parameter List)

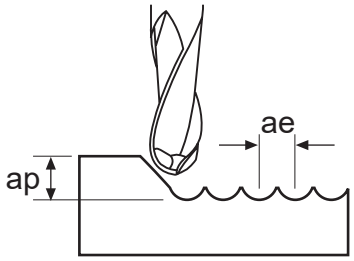
MATERIAL	Steel - СТАЛЬ				Cast Iron							
HARDNESS	HRC 48 - 56				Nodulaire - ЧУГУН				Lamellaire - ЛАМЕЛАР			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1-3	40	0.006	1 x d	0.05 x d	90	0.006	1 x d	0.1 x d	100	0.009	1 x d	0.2 x d
4	40	0.008	1 x d	0.05 x d	90	0.013	1 x d	0.1 x d	100	0.018	1 x d	0.2 x d
5	40	0.008	1 x d	0.05 x d	90	0.013	1 x d	0.1 x d	100	0.018	1 x d	0.2 x d
6	40	0.008	1 x d	0.05 x d	90	0.013	1 x d	0.1 x d	100	0.018	1 x d	0.2 x d
8	40	0.016	1 x d	0.05 x d	90	0.026	1 x d	0.1 x d	100	0.036	1 x d	0.2 x d
10	40	0.016	1 x d	0.05 x d	90	0.026	1 x d	0.1 x d	100	0.036	1 x d	0.2 x d
12	40	0.024	1 x d	0.05 x d	90	0.038	1 x d	0.1 x d	100	0.054	1 x d	0.2 x d
14 - 18	40	0.024	1 x d	0.05 x d	90	0.038	1 x d	0.1 x d	100	0.054	1 x d	0.2 x d
20 - 25	40	0.040	1 x d	0.05 x d	90	0.064	1 x d	0.1 x d	100	0.090	1 x d	0.2 x d

MATERIAL	Titanium - ТИТАН				Copper - МЕДЬ				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ			
HARDNESS												
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
3	60	0.006	1 x d	0.1 x d	200	0.009	1 x d	0.3 x d	50	0.006	1 x d	0.1 x d
4	60	0.013	1 x d	0.1 x d	200	0.018	1 x d	0.3 x d	50	0.013	1 x d	0.1 x d
5	60	0.013	1 x d	0.1 x d	200	0.018	1 x d	0.3 x d	50	0.013	1 x d	0.1 x d
6	60	0.013	1 x d	0.1 x d	200	0.018	1 x d	0.3 x d	50	0.013	1 x d	0.1 x d
8	60	0.026	1 x d	0.1 x d	200	0.036	1 x d	0.3 x d	50	0.026	1 x d	0.1 x d
10	60	0.026	1 x d	0.1 x d	200	0.036	1 x d	0.3 x d	50	0.026	1 x d	0.1 x d
12	60	0.038	1 x d	0.1 x d	200	0.054	1 x d	0.3 x d	50	0.038	1 x d	0.1 x d
14 - 18	60	0.038	1 x d	0.1 x d	200	0.054	1 x d	0.3 x d	50	0.038	1 x d	0.1 x d
20 - 25	60	0.064	1 x d	0.1 x d	200	0.090	1 x d	0.3 x d	50	0.064	1 x d	0.1 x d

Parametri di taglio

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost



For finishing:
ae < 0,02 - 0,03 x d
ap < 0,8 x d
Vc = 1,2 x Vc (Parameter List)
Fz = 0,7 x Vc (Parameter List)

CODE: 700SR - 200RT - 201R - 400RT

MATERIAL	Steel - СТАЛЬ											
HARDNESS	< 170 HB				< 50 HRC				< 60 HRC			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1 - 3	140	0.016	0.03 x d	0.03 x d	120	0.016	0.03 x d	0.03 x d	70	0.014	0.03 x d	0.03 x d
4	140	0.032	0.03 x d	0.03 x d	120	0.032	0.03 x d	0.03 x d	70	0.028	0.03 x d	0.03 x d
6	140	0.032	0.03 x d	0.03 x d	120	0.032	0.03 x d	0.03 x d	70	0.028	0.03 x d	0.03 x d
8	140	0.064	0.03 x d	0.03 x d	120	0.064	0.03 x d	0.03 x d	70	0.056	0.03 x d	0.03 x d
10	140	0.064	0.03 x d	0.03 x d	120	0.064	0.03 x d	0.03 x d	70	0.056	0.03 x d	0.03 x d
12 - 18	140	0.096	0.03 x d	0.03 x d	120	0.096	0.03 x d	0.03 x d	70	0.084	0.03 x d	0.03 x d
20 - 25	140	0.160	0.03 x d	0.03 x d	120	0.160	0.03 x d	0.03 x d	70	0.140	0.03 x d	0.03 x d

MATERIAL	Aluminium - Copper - МЕДЬ				Titanium - ТИТАН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ			
HARDNESS	< 170 HB				< 50 HRC				< 60 HRC			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1 - 3	350	0.020	0.03 x d	0.03 x d	90	0.014	0.03 x d	0.03 x d	80	0.015	0.03 x d	0.03 x d
4	350	0.040	0.03 x d	0.03 x d	90	0.028	0.03 x d	0.03 x d	80	0.030	0.03 x d	0.03 x d
6	350	0.040	0.03 x d	0.03 x d	90	0.028	0.03 x d	0.03 x d	80	0.030	0.03 x d	0.03 x d
8	350	0.080	0.03 x d	0.03 x d	90	0.057	0.03 x d	0.03 x d	80	0.060	0.03 x d	0.03 x d
10	350	0.080	0.03 x d	0.03 x d	90	0.057	0.03 x d	0.03 x d	80	0.060	0.03 x d	0.03 x d
12 - 18	350	0.120	0.03 x d	0.03 x d	90	0.085	0.03 x d	0.03 x d	80	0.090	0.03 x d	0.03 x d
20 - 25	350	0.200	0.03 x d	0.03 x d	90	0.142	0.03 x d	0.03 x d	80	0.150	0.03 x d	0.03 x d

MATERIAL	Super Alloy - СУПЕР СПЛАВ				Cast Iron - ЧУГУН							
HARDNESS					Lamellair - ЛАМЕЛАР				Nodulaire - ЧУГУН			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap	Vc	Fz	ae	ap
1 - 3	40	0.015	0.03 x d	0.03 x d	130	0.019	0.03 x d	0.03 x d	120	0.015	0.03 x d	0.03 x d
4	40	0.030	0.03 x d	0.03 x d	130	0.038	0.03 x d	0.03 x d	120	0.030	0.03 x d	0.03 x d
6	40	0.030	0.03 x d	0.03 x d	130	0.038	0.03 x d	0.03 x d	120	0.030	0.03 x d	0.03 x d
8	40	0.060	0.03 x d	0.03 x d	130	0.076	0.03 x d	0.03 x d	120	0.060	0.03 x d	0.03 x d
10	40	0.060	0.03 x d	0.03 x d	130	0.076	0.03 x d	0.03 x d	120	0.060	0.03 x d	0.03 x d
12 - 18	40	0.090	0.03 x d	0.03 x d	130	0.114	0.03 x d	0.03 x d	120	0.090	0.03 x d	0.03 x d
20 - 25	40	0.150	0.03 x d	0.03 x d	130	0.190	0.03 x d	0.03 x d	120	0.150	0.03 x d	0.03 x d

CODE: 122TS - 122TLS

MATERIAL	HARDNESS	Type	VC	Ø				
				Ø 3-5	Ø 5.1-8	Ø 8.1-12	Ø 12.1-16	Ø 16.1-20
				FZ	FZ	FZ	FZ	FZ
Stainless Steel ЛИТАЯ СТАЛЬ			20 ÷ 30	0.04 ÷ 0.10	0.05 ÷ 0.15	0.05 ÷ 0.18	0.08 ÷ 0.20	0.10 ÷ 0.20
Cast steel	< 600 N/mm < 700 N/mm > 700 N/mm	GS 38 GS 52 GS 62	30 - 60 25 - 50 20 - 45	0.05 - 0.15 0.04 - 0.10 0.04 - 0.10	0.05 - 0.20 0.05 - 0.15 0.05 - 0.15	0.10 - 0.22 0.05 - 0.18 0.10 - 0.18	0.10 - 0.25 0.08 - 0.20 0.08 - 0.20	0.10 - 0.25 0.10 - 0.20 0.10 - 0.20
Cast Iron ЧУГУН	< 200 N/mm	GG 20 GGG 40 GTS 45	70 - 110	0.10 - 0.25	0.15 - 0.30	0.20 - 0.40	0.25 - 0.45	0.30 - 0.50
	< 250 N/mm	GG 30 GGG 50 GTS 40	60 - 95	0.10 - 0.20	0.12 - 0.25	0.15 - 0.35	0.20 - 0.40	0.25 - 0.45
	> 250 N/mm	GG 40 GGG 70 GTS 70	50 - 80	0.10 - 0.20	0.12 - 0.25	0.15 - 0.35	0.20 - 0.40	0.25 - 0.45
	350 HB 450 HB		20 - 55	0.04 - 0.10	0.06 - 0.12	0.08 - 0.15	0.08 - 0.15	0.10 - 0.18
Copper - Bronze - Brass МЕДЬ - БРОНЗА - ЛАТУНЬ			60 - 220	0.07 - 0.18	0.12 - 0.25	0.20 - 0.35	0.25 - 0.45	0.30 - 0.50
Aluminium АЛЮМИНИЙ		< 10% Si > 10% Si	80 - 200 70 - 200	0.10 - 0.25 0.10 - 0.25	0.15 - 0.35 0.15 - 0.35	0.25 - 0.45 0.25 - 0.45	0.30 - 0.50 0.30 - 0.50	0.35 - 0.55 0.35 - 0.55
Titanium Титан			15 - 40	0.02 - 0.07	0.04 - 0.10	0.06 - 0.12	0.08 - 0.15	0.08 - 0.15
Inconel ИНКОНЕЛЬ			10 - 30	0.02 - 0.07	0.04 - 0.10	0.06 - 0.12	0.08 - 0.15	0.08 - 0.15

CORRECTION FACTORS - УТОЧНЯЮЩИЕ ДАННЫЕ

5 x d = x 0,8
8 x d = x 0,7
Code 120 = x 0,7
Code 130 = x 0,7

Parametri di taglio

Cutting speed

Richtwerte - Paramétres - Режимы обработки - Řezná rychlost

CODE: 122FS - 122FLS

MATERIAL	HARDNESS	Type	VC	Ø				
				Ø 3 - 5	Ø 5 - 8	Ø 8.1 - 12	Ø 12.1 - 16	Ø 16.1 - 20
				FZ	FZ	FZ	FZ	FZ
Steel СТАЛЬ	< 500 N/mm2 < 800 N/mm2 < 1000 N/mm2 < 1300 N/mm2		70 - 90 50 - 80 45 - 60 40 - 55	0.001 0.010 0.010 0.010	0.012 0.012 0.012 0.012	0.015 0.015 0.013 0.013	0.020 0.020 0.017 0.017	0.025 0.025 0.020 0.020
Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ			25 ÷ 55	0.04 ÷ 0.10	0.05 ÷ 0.15	0.05 ÷ 0.18	0.08 ÷ 0.20	0.10 ÷ 0.20
Cast steel ЛИТАЯ СТАЛЬ	< 600 N/mm < 700 N/mm > 700 N/mm	GS 38 GS 52 GS 62	40 - 70 30 - 50 25 - 55	0.05 - 0.15 0.04 - 0.10 0.04 - 0.10	0.05 - 0.20 0.05 - 0.15 0.05 - 0.15	0.10 - 0.22 0.05 - 0.18 0.10 - 0.18	0.10 - 0.25 0.08 - 0.20 0.08 - 0.20	0.10 - 0.25 0.10 - 0.20 0.10 - 0.20
Cast Iron ЧУГУН	< 200 N/mm	GG 20 GGG 40 GTS 45	80 - 130	0.10 - 0.25	0.15 - 0.30	0.20 - 0.40	0.25 - 0.45	0.30 - 0.50
	< 250 N/mm	GG 30 GGG 50 GTS 40	70 - 115	0.10 - 0.20	0.12 - 0.25	0.15 - 0.35	0.20 - 0.40	0.25 - 0.45
	> 250 N/mm	GG 40 GGG 70 GTS 70	60 - 100	0.10 - 0.20	0.12 - 0.25	0.15 - 0.35	0.20 - 0.40	0.25 - 0.45
	350 HB 450 HB		25 - 65	0.04 - 0.10	0.06 - 0.12	0.08 - 0.15	0.08 - 0.15	0.10 - 0.18
Copper - Bronze - Brass МЕДЬ – БРОНЗА – ЛАТУНЬ			70 - 300	0.07 - 0.18	0.12 - 0.25	0.20 - 0.35	0.25 - 0.45	0.30 - 0.50
Aluminium АЛЮМИНИЙ		> 10 % Si < 10 % Si	90 - 300 100 - 400	0.10 - 0.25 0.10 - 0.25	0.15 - 0.35 0.15 - 0.35	0.25 - 0.45 0.25 - 0.45	0.30 - 0.50 0.30 - 0.50	0.35 - 0.55 0.35 - 0.55
Titanium ТИТАН			15 - 45	0.02 - 0.07	0.04 - 0.10	0.06 - 0.12	0.08 - 0.15	0.08 - 0.15
Inconel ИНКОНЕЛЬ		Inconel	15 - 35	0.02 - 0.07	0.04 - 0.10	0.06 - 0.12	0.08 - 0.15	0.08 - 0.15

CORRECTION FACTORS - УТОЧНЯЮЩИЕ ДАННЫЕ

5 x d = x 0,8
8 x d = x 0,7



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