

MINITOOL



$\text{Ød} = 4-5-6-7 \text{ mm}$

"Mini utensili SAU"
Per la lavorazione di precisione
di piccoli componenti
"SAU Mini Tools"
For precision machining
of small components






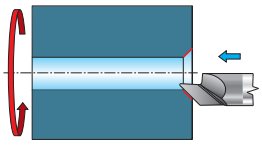


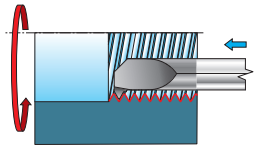



Tornitura Interna
Scanalatura
Pretaglio e Smussatura
Scanalatura Frontale
Smussatura
Filettatura


Internal Turning
Grooving
Pre-part-off and Chamfering
Face Grooving
Chamfering
Threading

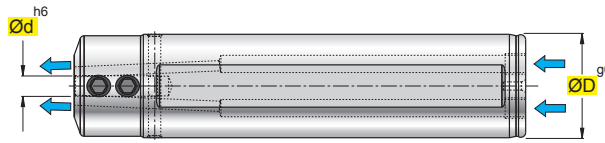
		ART.	Ød	ØD	Pag.
PORTAUTENSILI - TOOL HOLDER					
		S100-TS-04-...	4	12-25	8
		S100-TS-05-...	5	12-25	9
		S100-TS-06-...	6	12-25	10
		S100-TS-07-...	7	16-25	11

APPLICAZIONE - APPLICATION		ART.	ØD min	Ød	t max	Pag.	
TORNITURA INTERNA - INTERNAL TURNING							
			S101-04.9820-...015R/L	1,7-4,2	4	0,2-0,3	12
			S101-05.9820-052-...020R/L	4,9-5,2	5	0,4-0,5	14
			S101-06.9820-062-...020R/L	6,2	6	0,5	16
			S101-07.9820-072-...020R/L	7,2	7	0,5	18
			S101-04.9847-...-...R/L	3,2-4,2	4	0,4-0,8	20
			S101-05.9847-052-...015R/L	5,2	5	1,0	20
			S101-06.9847-062-...015R/L	6,2	5	1,8	20
			S101-07.9847-072-40.020R/L	7,2	7	2,5	20
			S101-05.9020-052-...020R/L	5,2	5	0,5	22

APPLICAZIONE - APPLICATION	ART.	ØD min	Ød	t max	Pag.	
SCANALATURA - GROOVING						
		S102-04...000R/L	2,0-4,2	4	0,4-0,8	24
		S102-05...000R/L	5,0-5,2	5	1,0	26
		S102-06...-062-...000R/L	6,2	6	1,8	28
		S102-07...-072-...000R/L	7,2	7	2,5	30
		S102-04.R100-042-15.050R/L	4,2	4	0,8	32
		S102-05.R...-052-20...R/L	5,2	5	1,0	32
		S102-06.R...-062-25...R/L	6,2	6	1,8	32
		S102-07.R...-072-30...R/L	7,2	7	2,5	32
PRETAGLIO E SMUSSATURA - PRE-PART-OFF AND CHAMFERING						
		S105-04.0100-037-...000R/L	3,7-4,2	4	0,7	34
		S105-05.0100-052-...000R/L	5,2	5	0,7	34
		S105-06.0100-062-...000R/L	6,2	6	0,7	34
SCANALATURA FRONTALE - FACE GROOVING						
		S103-06...-I62-15.015R/L	6,2	6	2-6	36
		S103-06...-E62-15.015R/L	6,2	6	2-6	38
		S103-06.R...-I62-15...R/L	6,2	6	2-4	40
		S103-06.R...-E62-15...R/L	6,2	6	2-4	42

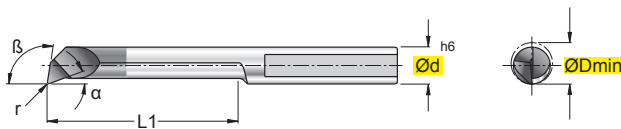
APPLICAZIONE - APPLICATION	ART.	ØD min	Ød	t max	Pag.	
						
SMUSSATURA - CHAMFERING						
	 	S101-06.00...-...020R/L	1	6	2,2-4,0	44
FILETTATURA (ISO PROFILO PARZIALE) - THREADING (ISO PARTIAL PROFILE)						
		S104-04.0060-042-15.050R	4,2	4	0,4	46
		S104-05.0060-048-...100R/L	4,8	5	0,7	46
		S104-06.0060-062-...R	6,2	6	0,84 0,98	46

DATI TECNICI - TECHNICAL DATA	
	49



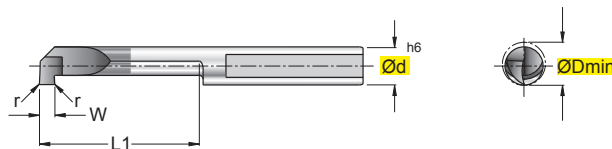
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1							2			3				

- 1** COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE
- 2** Ød DIAMETRO ATTACCO "MINITOOL"
Ød "MINITOOL" ATTACHMENT DIAMETER
- 3** ØD DIAMETRO ATTACCO PORTA UTENSILE
ØD TOOL-HOLDER ATTACHMENT DIAMETER



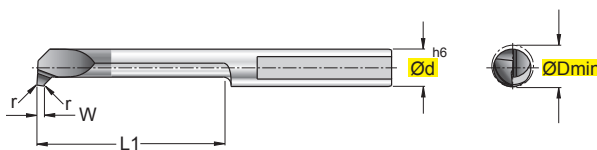
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1		2		3		4		5		6		7		8									

- 1** COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE
- 2** Ød DIAMETRO ATTACCO "MINITOOL"
Ød "MINITOOL" ATTACHMENT DIAMETER
- 3** ANGOLO β TESTA
β ANGLE - HEAD
- 4** ANGOLO α TESTA
α ANGLE - HEAD
- 5** ØDmin DIAMETRO MINIMO DI ENTRATA
ØDmin MINIMUM PENETRATION DIAMETER
- 6** L1 PROFONDITÀ MASSIMA DI LAVORO
L1 MAXIMUM MACHINING DEPTH
- 7** r RAGGIO IN TESTA
r HEAD RADIUS
- 8** R/L DIREZIONE DI TAGLIO
R/L CUTTING DIRECTION



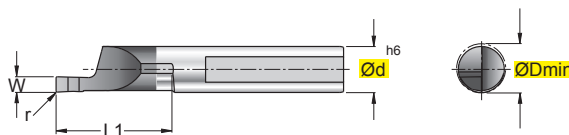
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1		2		3		4		5		6		7		8									

- 1** COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE
- 2** Ød DIAMETRO ATTACCO "MINITOOL"
Ød "MINITOOL" ATTACHMENT DIAMETER
- 3** FORMA DELLA GOLA 0=PIANA R=SFERICA
SHAPE OF GROOVE 0=FLAT R=SPHERICAL
- 4** W LARGHEZZA SCANALATURA
W GROOVE WIDTH
- 5** ØDmin DIAMETRO MINIMO DI ENTRATA
ØDmin MINIMUM PENETRATION DIAMETER
- 6** L1 PROFONDITÀ MASSIMA DI LAVORO
L1 MAXIMUM MACHINING DEPTH
- 7** r RAGGIO IN TESTA
r HEAD RADIUS
- 8** R/L DIREZIONE DI TAGLIO
R/L CUTTING DIRECTION



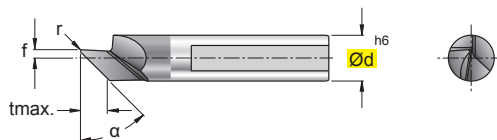
S 1 0 5 - 0 4 . 0 1 0 0 - 0 4 2 - 2 0 . 0 0 0 R
1 2 3 4 5 6 7 8

1 COD. TIPOLOGIA ARTICOLO COD. ITEM TYPE	2 Ød DIAMETRO ATTACCO "MINITOOL" Ød "MINITOOL" ATTACHMENT DIAMETER	3 FORMA DELLA GOLA 0=PIANA R=SFERICA SHAPE OF GROOVE 0=FLAT R=SPHERICAL
4 W LARGHEZZA SCANALATURA W GROOVE WIDTH	5 ØDmin DIAMETRO MINIMO DI ENTRATA ØDmin MINIMUM PENETRATION DIAMETER	6 L1 PROFONDITÀ MASSIMA DI LAVORO L1 MAXIMUM MACHINING DEPTH
7 r RAGGIO IN TESTA r HEAD RADIUS	8 R/L DIREZIONE DI TAGLIO R/L CUTTING DIRECTION	



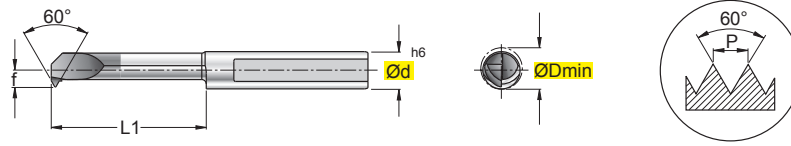
S 1 0 3 - 0 6 . 0 2 0 0 - I 6 2 - 1 5 . 0 1 5 R
1 2 3 4 5 6 7 8 9

1 COD. TIPOLOGIA ARTICOLO COD. ITEM TYPE	2 Ød DIAMETRO ATTACCO "MINITOOL" Ød "MINITOOL" ATTACHMENT DIAMETER	3 FORMA DELLA GOLA 0=PIANA R=SFERICA SHAPE OF GROOVE 0=FLAT R=SPHERICAL
4 W LARGHEZZA SCANALATURA W GROOVE WIDTH	5 TIPO TORNITURA I=INTERNA E=ESTERNA TURNING TYPE I=INTERNAL E=EXTERNAL	6 ØDmin DIAMETRO MINIMO DI ENTRATA ØDmin MINIMUM PENETRATION DIAMETER
7 L1 PROFONDITÀ MASSIMA DI ENTRATA L1 MAXIMUM PENETRATION DEPTH	8 r RAGGIO IN TESTA r HEAD RADIUS	9 R/L DIREZIONE DI TAGLIO R/L CUTTING DIRECTION



S 1 0 1 - 0 6 . 0 0 4 5 - 0 1 1 - 3 5 . 0 2 0 R
1 2 3 4 5 6 7

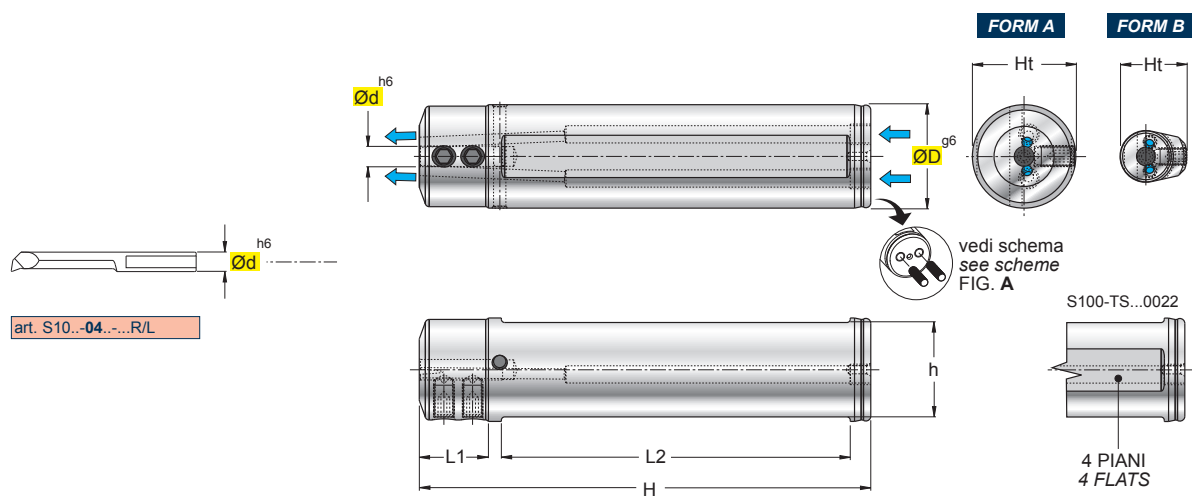
1 COD. TIPOLOGIA ARTICOLO COD. ITEM TYPE	2 Ød DIAMETRO ATTACCO "MINITOOL" Ød "MINITOOL" ATTACHMENT DIAMETER	3 ANGOLO α SMUSSATURA α ANGLE - CHAMFERING
4 f DISTANZA OLTRE CENTRO f OFF-CENTRE DISTANCE	5 tmax MASSIMA PROFONDITÀ DI LAVORO tmax MAXIMUM CUTTING DEPTH	6 r RAGGIO IN TESTA r HEAD RADIUS
7 R/L DIREZIONE DI TAGLIO R/L CUTTING DIRECTION		



S	1	0	4	-	0	6	.	0	0	6	0	-	0	6	2	-	2	5	.	1	2	5	R
	1				2				3				4				5			6			7

1	COD. TIPOLOGIA ARTICOLO COD. ITEM TYPE	2	Ød DIAMETRO ATTACCO "MINITOOL" Ød "MINITOOL" ATTACHMENT DIAMETER	3	60° ANGOLO FILETTO 60° THREAD ANGLE
4	ØDmin DIAMETRO MINIMO DI ENTRATA ØDmin MINIMUM PENETRATION DIAMETER	5	L1 PROFONDITÀ MASSIMA DI ENTRATA L1 MAXIMUM PENETRATION DEPTH	6	P(min) PASSO MINIMO P(min) MINIMUM PITCH
7	R/L DIREZIONE DI TAGLIO R/L CUTTING DIRECTION				

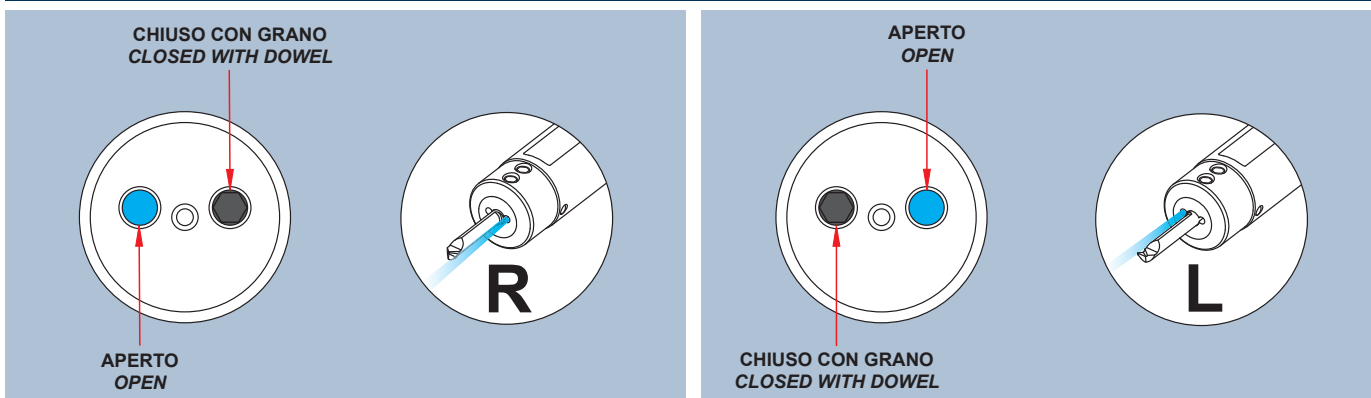
S100-TS-04-...



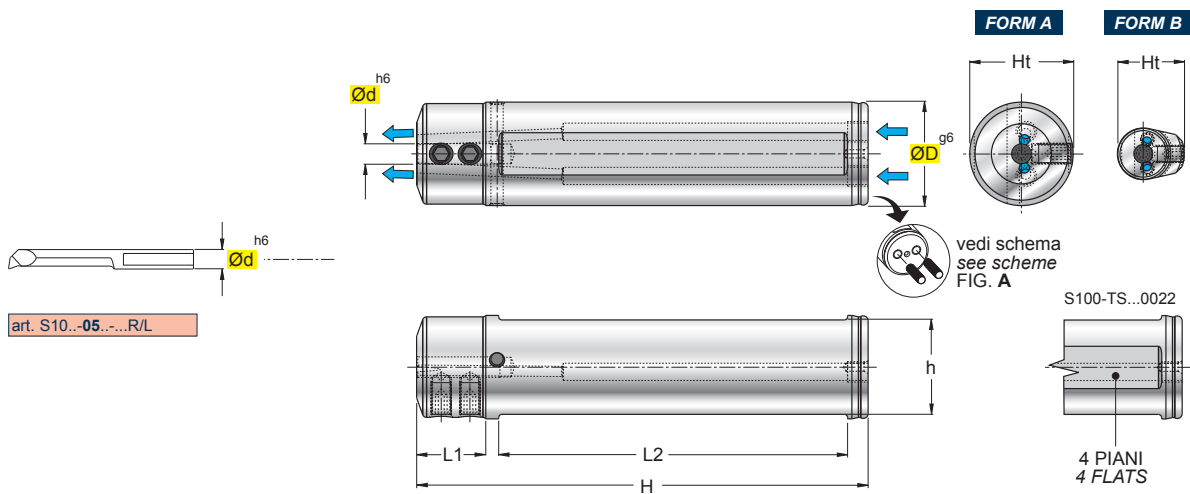
art. S10...-04...-...R/L

(mm)															
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht							
S100-TS-04.0012	B	12	4	10	14	48	70	15,5	n°2 GR408C	n°1 GR304C	5002				
S100-TS-04.0016	B	16	4	14	14	53	75	17,5	n°2 GR408C	n°1 GR404C	5002				
S100-TS-04.0020	A	20	4	18	15	66	90	19,5	n°2 GR408C	n°1 GR505C	5002				
S100-TS-04.0022	A	22	4	20	15	86	110	21,5	n°2 GR508C	n°1 GR505C	5025				
S100-TS-04.0025	A	25	4	23	15	86	110	24,5	n°2 GR410C	n°1 GR505C	5002				

(FIG. A) SCHEMA REFRIGERAZIONE - (FIG. A) COOLING DIAGRAM - (ABB. A) KÜHLSCHHEMA - (FIG. A) SCHEMA REFRIGERATION

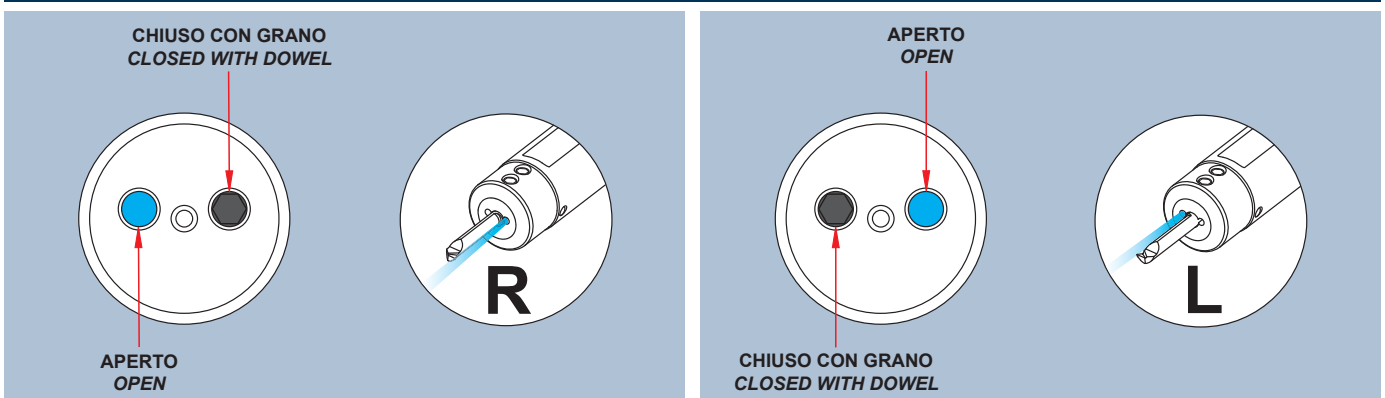


S100-TS-05-...

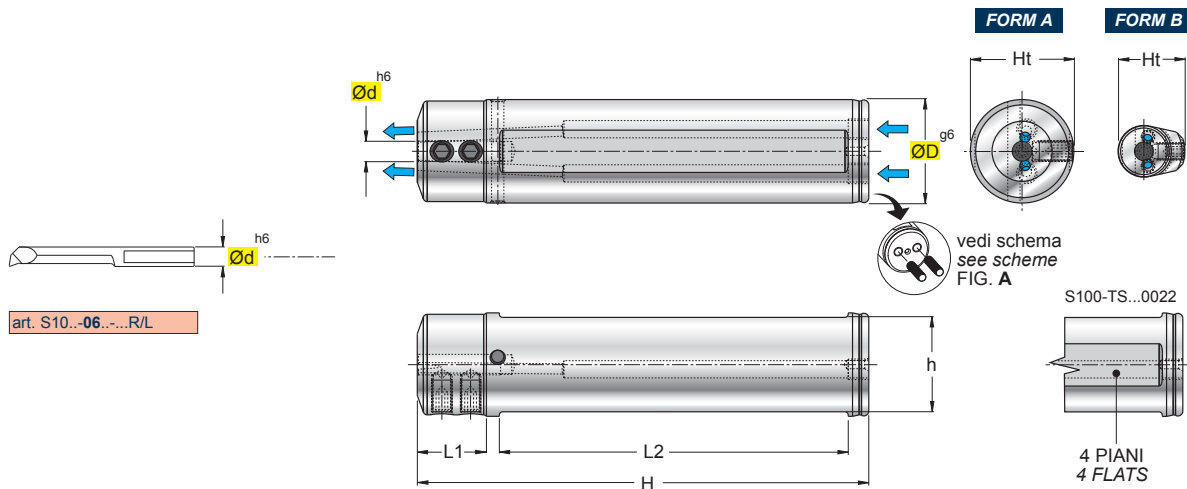


(mm)														
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht						
S100-TS-05.0012	B	12	5	10	15	47	70	16,0	n°2 GR508C	n°1 GR304C	5025			
S100-TS-05.0016	B	16	5	14	15	52	75	18,0	n°2 GR508C	n°1 GR404C	5025			
S100-TS-05.0020	A	20	5	18	15	66	90	19,5	n°2 GR508C	n°1 GR505C	5025			
S100-TS-05.0022	A	22	5	20	15	86	110	21,5	n°2 GR508C	n°1 GR505C	5025			
S100-TS-05.0025	A	25	5	23	15	86	110	24,5	n°2 GR510C	n°1 GR505C	5025			

(FIG. A) SCHEMA REFRIGERAZIONE - (FIG. A) COOLING DIAGRAM - (ABB. A) KÜHLSCHHEMA - (FIG. A) SCHEMA REFRIGERATION

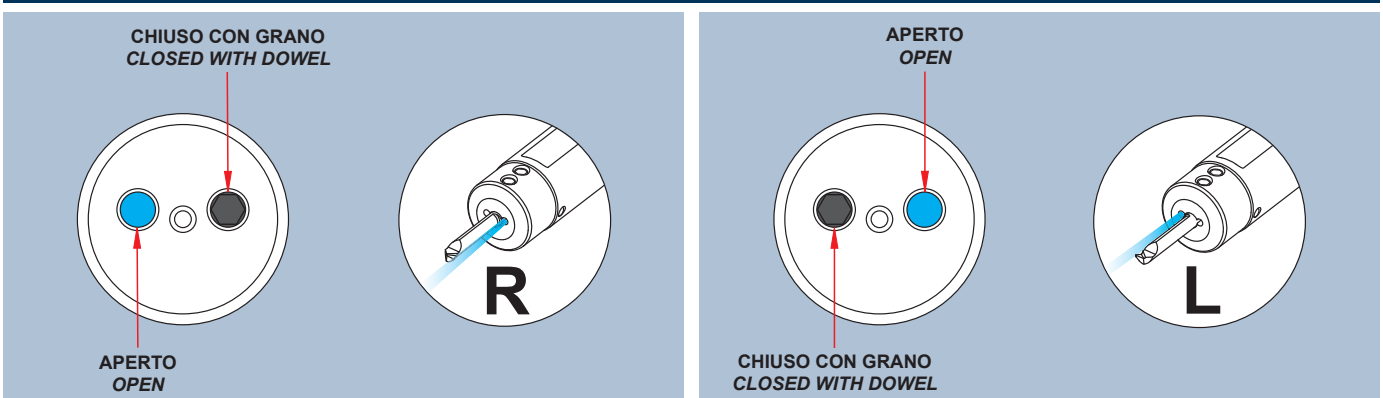


S100-TS-06-...

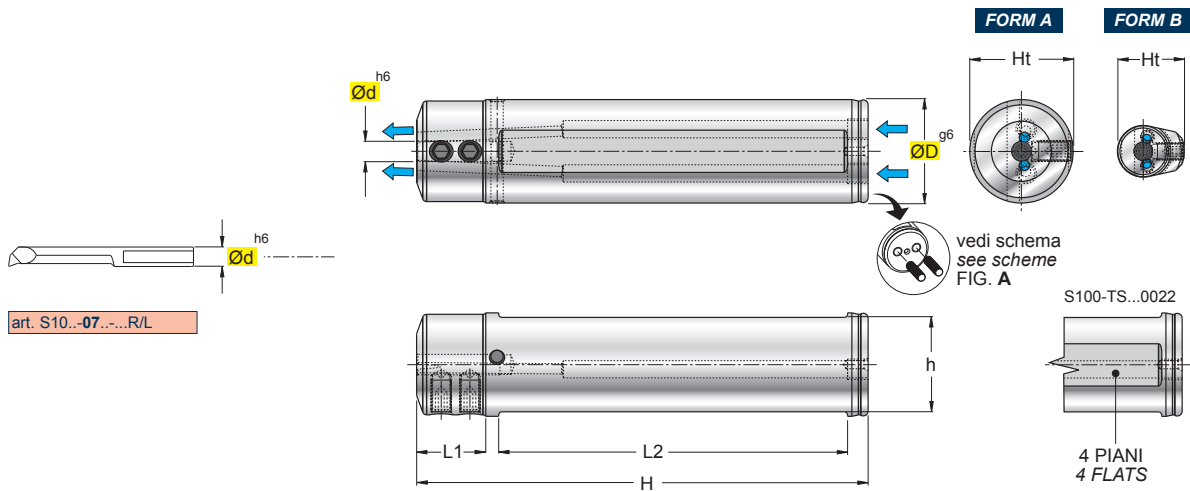


(mm)															
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht							
S100-TS-06.0012	B	12	6	10	15	47	70	16,5	n°2 GR508C	n°1 GR304C	5025				
S100-TS-06.0016	B	16	6	14	15	55	78	18,5	n°2 GR508C	n°1 GR404C	5025				
S100-TS-06.0020	A	20	6	18	15	66	90	19,5	n°2 GR508C	n°1 GR505C	5025				
S100-TS-06.0022	A	22	6	20	15	86	110	21,5	n°2 GR508C	n°1 GR505C	5025				
S100-TS-06.0025	A	25	6	23	15	85	110	24,5	n°2 GR510C	n°1 GR505C	5025				

(FIG. A) SCHEMA REFRIGERAZIONE - (FIG. A) COOLING DIAGRAM - (ABB. A) KÜHLSCHHEMA - (FIG. A) SCHEMA REFRIGERATION

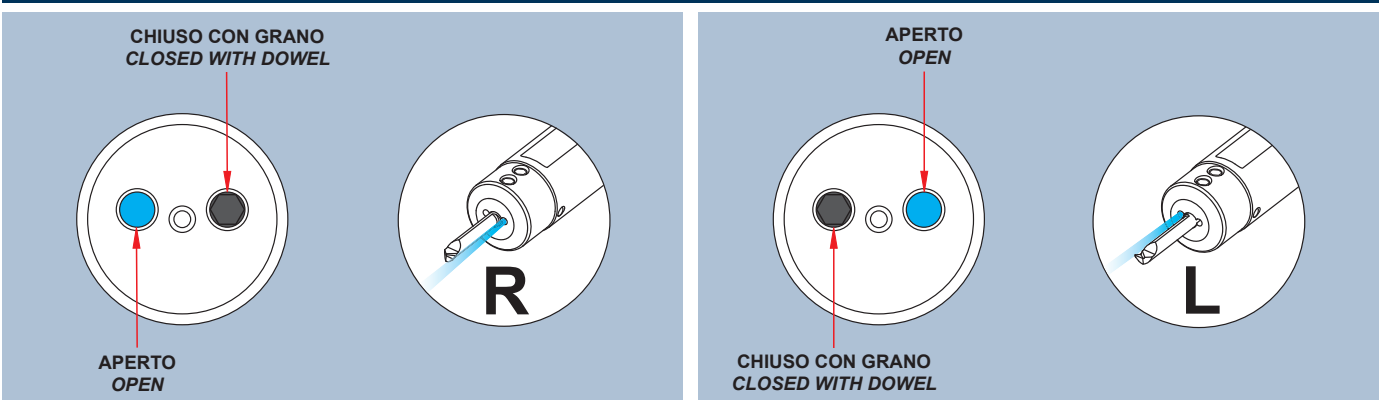


S100-TS-07-...



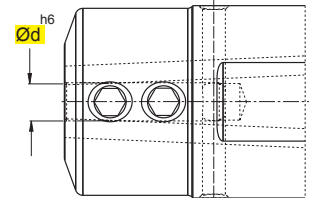
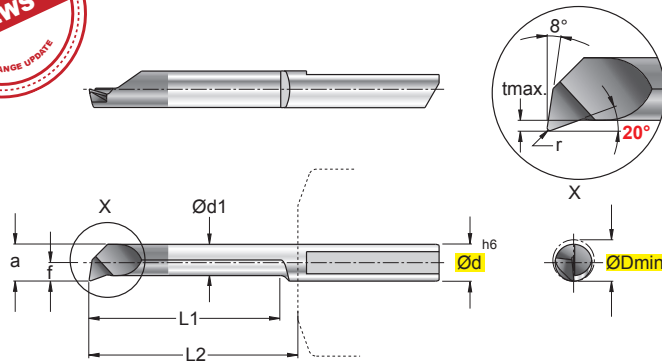
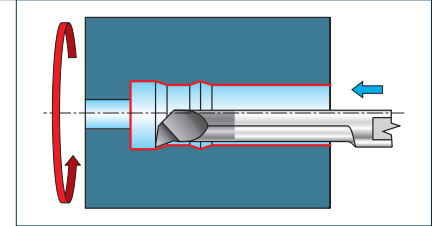
(mm)														
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht						
S100-TS-07.0016	B	16	7	14	15	55	78	19,0	n°2 GR508C	n°1 GR404C	5025			
S100-TS-07.0020	A	20	7	18	15	66	90	22,0	n°2 GR508C	n°1 GR505C	5025			
S100-TS-07.0022	A	22	7	20	15	86	110	21,7	n°2 GR508C	n°1 GR505C	5025			
S100-TS-07.0025	A	25	7	23	15	86	110	24,5	n°2 GR510C	n°1 GR505C	5025			

(FIG. A) SCHEMA REFRIGERAZIONE - (FIG. A) COOLING DIAGRAM - (ABB. A) KÜHLSCHHEMA - (FIG. A) SCHEMA REFRIGERATION



S101-04.9820-...R/L

Tornitura Interna - Internal Turning



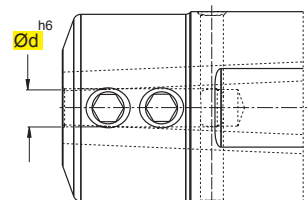
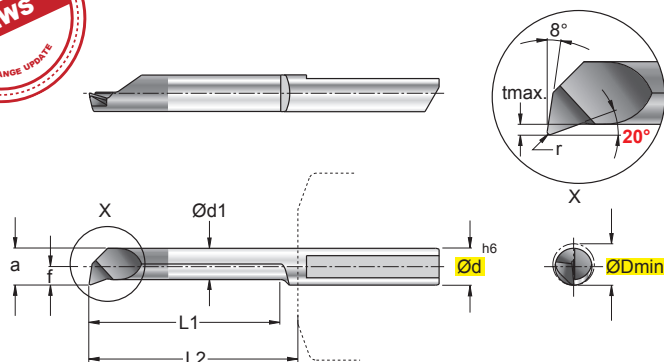
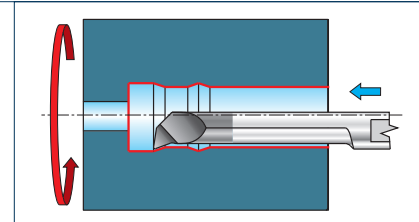
art. S100-TS-04..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
		ØDmin	Ød	Ød1	f	a	tmax	r	L1	L2							NON RIV.	RIVESTITI		
																	CEMENTED CARBIDE GRADES	COATED GRADES BESCHICHTET RECOUVERTS		
S101-04.9820-017-06.010R/L New		1,7	4	1,05	0,7	1,45	0,2	0,10	06	13	●	●	○	●	○	■		■		
S101-04.9820-017-09.010R/L New		1,7	4	1,05	0,7	1,45	0,2	0,10	09	13	●	●	○	●	○	■		■		
S101-04.9820-022-06.010R/L New		2,2	4	1,55	0,95	1,95	0,2	0,10	06	13	●	●	○	●	○	■		■		
S101-04.9820-022-09.010R/L New		2,2	4	1,55	0,95	1,95	0,2	0,10	09	13	●	●	○	●	○	■		■		
S101-04.9820-022-13.010R/L New		2,2	4	1,55	0,95	1,95	0,2	0,10	13	18	●	●	○	●	○	■		■		
S101-04.9820-027-10.005R/L New		2,7	4	2,05	1,2	2,45	0,2	0,05	10	13	●	●	○	●	○	■		■		
S101-04.9820-027-10.015R/L New		2,7	4	2,05	1,2	2,45	0,2	0,15	10	13	●	●	○	●	○	■		■		
S101-04.9820-027-15.005R/L New		2,7	4	2,05	1,2	2,45	0,2	0,05	15	18	●	●	○	●	○	■		■		
S101-04.9820-027-15.015R/L New		2,7	4	2,05	1,2	2,45	0,2	0,15	15	18	●	●	○	●	○	■		■		
S101-04.9820-030-20.015R/L New		3,0	4	2,35	1,35	2,75	0,2	0,15	20	23	●	●	○	●	○	■		■		
S101-04.9820-030-25.005R/L New		3,0	4	2,35	1,35	2,75	0,2	0,05	25	28	●	●	○	●	○	■		■		
S101-04.9820-032-10.015R/L		3,2	4	2,55	1,45	2,95	0,2	0,15	10	13	●	●	○	●	○	■		■		
S101-04.9820-032-15.005R/L New		3,2	4	2,55	1,45	2,95	0,2	0,05	15	18	●	●	○	●	○	■		■		
S101-04.9820-032-15.015R/L		3,2	4	2,55	1,45	2,95	0,2	0,15	15	18	●	●	○	●	○	■		■		
S101-04.9820-032-20.005R/L New		3,2	4	2,55	1,45	2,95	0,2	0,05	20	23	●	●	○	●	○	■		■		
S101-04.9820-032-20.015R/L		3,2	4	2,55	1,45	2,95	0,2	0,15	20	23	●	●	○	●	○	■		■		
S101-04.9820-037-10.015R/L		3,7	4	3,05	1,7	3,45	0,2	0,15	10	13	●	●	○	●	○	■		■		
S101-04.9820-037-15.015R/L		3,7	4	3,05	1,7	3,45	0,2	0,15	15	18	●	●	○	●	○	■		■		
S101-04.9820-037-20.015R/L		3,7	4	3,05	1,7	3,45	0,2	0,15	20	23	●	●	○	●	○	■		■		
S101-04.9820-037-25.015R/L		3,7	4	3,05	1,7	3,45	0,2	0,15	25	28	●	●	○	●	○	■		■		

S101-05.9820-...R/L

Tornitura Interna - Internal Turning



art. S100-TS-05..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
		ØDmin	Ød	Ød1	f	a	tmax	r	L1	L2							NON RIV.	RIVESTITI		
																	CEMENTED	COATED GRADES		
S101-05.9820-049-20.020R/L New		4,9	5	3,95	2,45	4,65	0,4	0,2	20	23	●	●	○	●	○	■		■		
S101-05.9820-049-25.020R/L New		4,9	5	3,95	2,45	4,65	0,4	0,2	25	28	●	●	○	●	○	■		■		
S101-05.9820-049-30.020R/L New		4,9	5	3,95	2,45	4,65	0,4	0,2	30	33	●	●	○	●	○	■		■		
S101-05.9820-049-35.020R/L New		4,9	5	3,95	2,45	4,65	0,4	0,2	35	38	●	●	○	●	○	■		■		
S101-05.9820-049-40.020R/L New		4,9	5	3,95	2,45	4,65	0,4	0,2	40	43	●	●	○	●	○	■		■		
S101-05.9820-052-10.005R/L New		5,2	5	4,25	2,45	4,95	0,5	0,05	10	13	●	●	○	●	○	■		■		
S101-05.9820-052-10.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	10	13	●	●	○	●	○	■		■		
S101-05.9820-052-15.005R/L New		5,2	5	4,25	2,45	4,95	0,5	0,05	15	18	●	●	○	●	○	■		■		
S101-05.9820-052-15.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	15	18	●	●	○	●	○	■		■		
S101-05.9820-052-20.005R/L New		5,2	5	4,25	2,45	4,95	0,5	0,05	20	23	●	●	○	●	○	■		■		
S101-05.9820-052-20.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	20	23	●	●	○	●	○	■		■		
S101-05.9820-052-25.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	25	28	●	●	○	●	○	■		■		
S101-05.9820-052-30.005R/L New		5,2	5	4,25	2,45	4,95	0,5	0,05	30	33	●	●	○	●	○	■		■		
S101-05.9820-052-30.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	30	33	●	●	○	●	○	■		■		
S101-05.9820-052-35.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	35	38	●	●	○	●	○	■		■		
S101-05.9820-052-40.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	40	43	●	●	○	●	○	■		■		

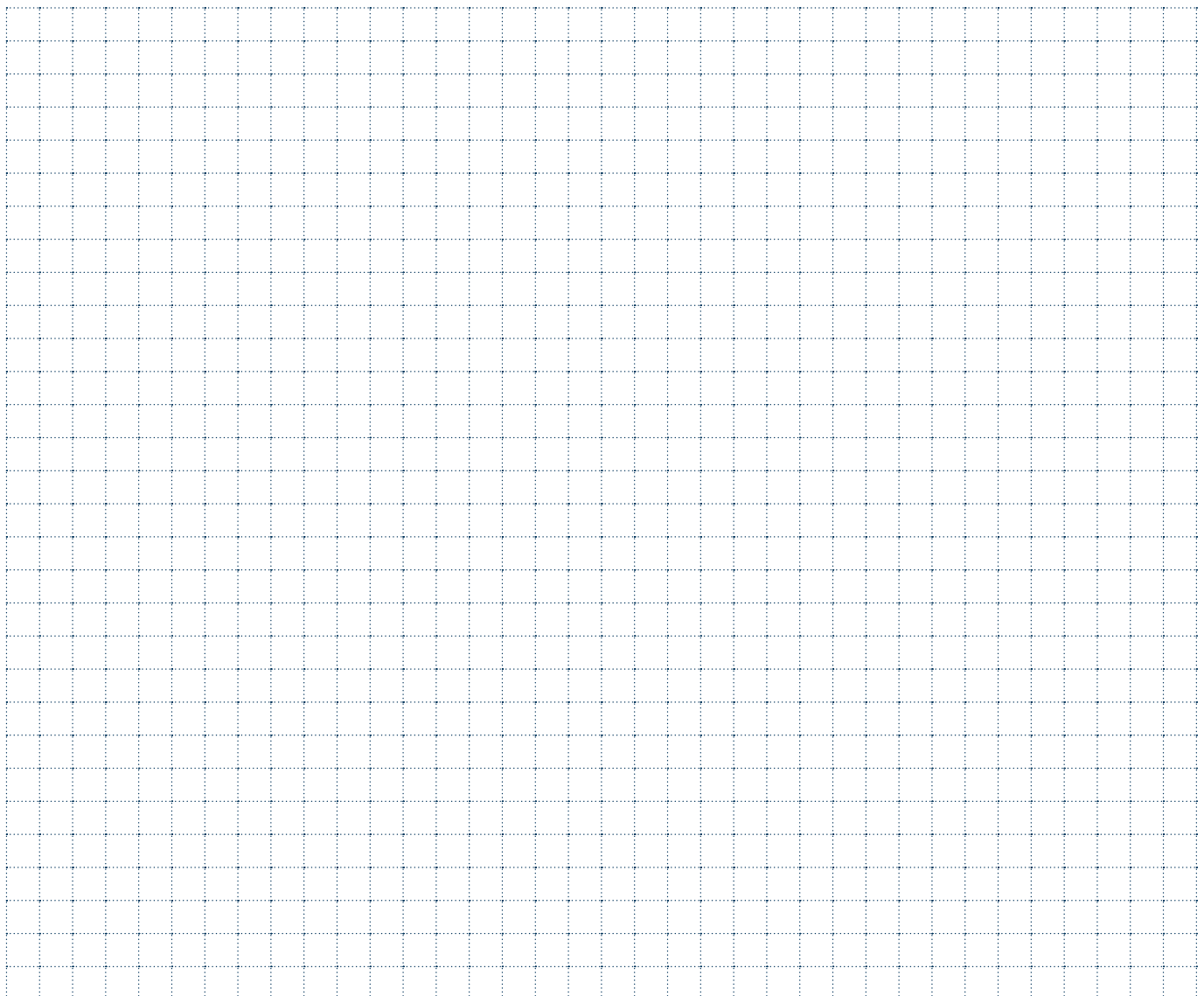
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-200		0,02-0,08
	6-9	180-350		80-170		0,02-0,08
	10-11	200-325		60-110		0,02-0,08
	12-13	200-240		50-100		0,02-0,08
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,02-0,08
	15-16	180-260	30-90	30-150		0,02-0,08
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,02-0,08
	19-20	130-230	30-90	30-100		0,02-0,08
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,02-0,08
	26-28	90-110	50-110			0,02-0,08
	29-30	/	20-100			0,02-0,08
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,005-0,05
	36-37	400-1050 ¹⁾		30-80		0,005-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

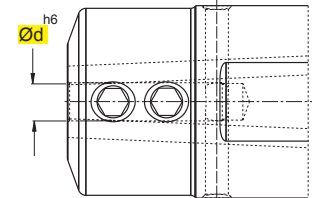
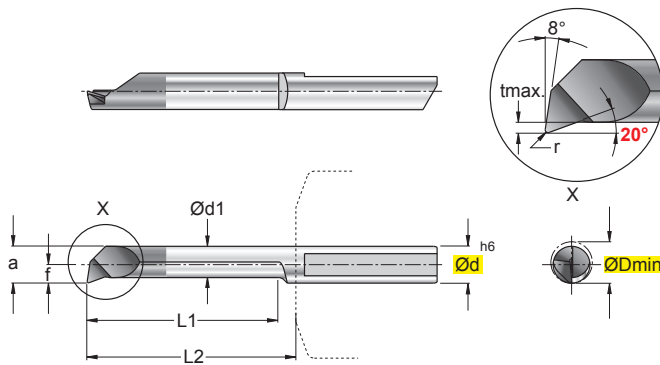
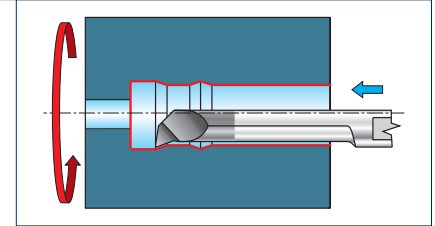
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S101-06.9820-...R/L

Tornitura Interna - Internal Turning



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
		ØDmin	Ød	Ød1	f	a	tmax	r	L1	L2							NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S101-06.9820-062-15.020R/L		6,2	6	5,25	2,95	5,95	0,5	0,2	15	18	●	●	○	●	○		■		■	
S101-06.9820-062-20.020R/L		6,2	6	5,25	2,95	5,95	0,5	0,2	20	23	●	●	○	●	○		■		■	
S101-06.9820-062-25.020R/L		6,2	6	5,25	2,95	5,95	0,5	0,2	25	28	●	●	○	●	○		■		■	
S101-06.9820-062-30.020R/L		6,2	6	5,25	2,95	5,95	0,5	0,2	30	33	●	●	○	●	○		■		■	
S101-06.9820-062-35.020R/L		6,2	6	5,25	2,95	5,95	0,5	0,2	35	38	●	●	○	●	○		■		■	
S101-06.9820-062-40.020R/L		6,2	6	5,25	2,95	5,95	0,5	0,2	40	43	●	●	○	●	○		■		■	

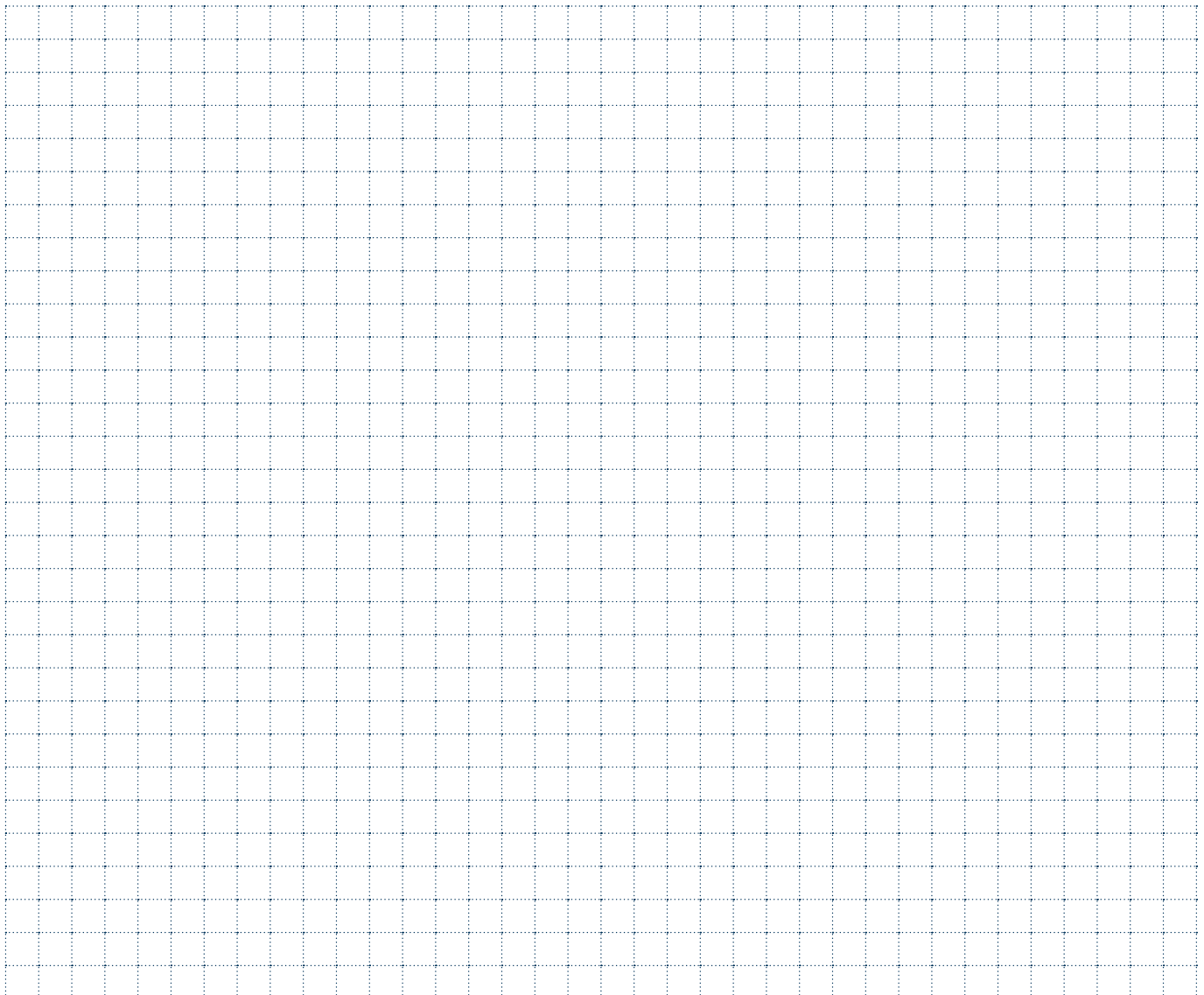
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-200		0,02-0,08
	6-9	180-350		80-170		0,02-0,08
	10-11	200-325		60-110		0,02-0,08
	12-13	200-240		50-100		0,02-0,08
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,02-0,08
	15-16	180-260	30-90	30-150		0,02-0,08
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,02-0,08
	19-20	130-230	30-90	30-100		0,02-0,08
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,02-0,08
	26-28	90-110	50-110			0,02-0,08
	29-30	/	20-100			0,02-0,08
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,005-0,05
	36-37	400-1050 ¹⁾		30-80		0,005-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

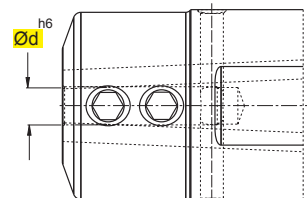
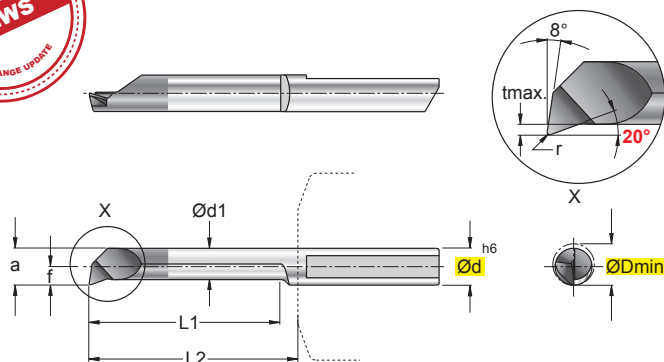
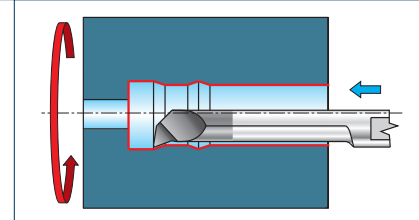
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S101-07.9820-...R/L

Tornitura Interna - Internal Turning



art. S100-TS-07..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
		ØDmin	Ød	Ød1	f	a	tmax	r	L1	L2							NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S101-07.9820-072-25.020R/L		7,2	7	6,25	3,45	6,95	0,5	0,2	25	28	●	●	○	●	○		■		■	
S101-07.9820-072-30.020R/L		7,2	7	6,25	3,45	6,95	0,5	0,2	30	33	●	●	○	●	○		■		■	
S101-07.9820-072-35.020R/L		7,2	7	6,25	3,45	6,95	0,5	0,2	35	38	●	●	○	●	○		■		■	
S101-07.9820-072-40.020R/L		7,2	7	6,25	3,45	6,95	0,5	0,2	40	43	●	●	○	●	○		■		■	
S101-07.9820-072-45.020R/L New		7,2	7	6,25	3,45	6,95	0,5	0,2	45	48	●	●	○	●	○		■		■	
S101-07.9820-072-50.020R/L		7,2	7	6,25	3,45	6,95	0,5	0,2	50	53	●	●	○	●	○		■		■	

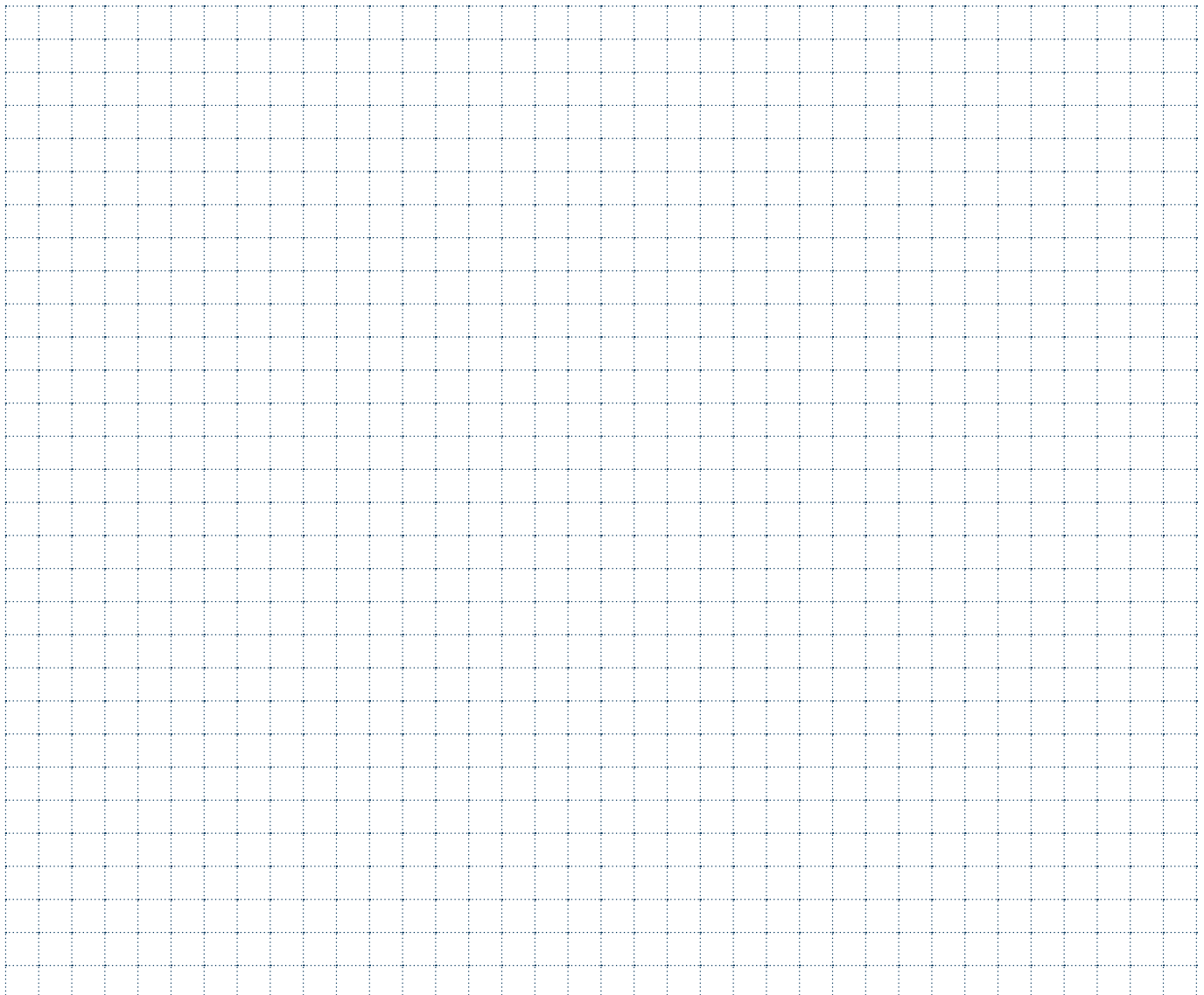
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-200		0,02-0,08
	6-9	180-350		80-170		0,02-0,08
	10-11	200-325		60-110		0,02-0,08
	12-13	200-240		50-100		0,02-0,08
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,02-0,08
	15-16	180-260	30-90	30-150		0,02-0,08
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,02-0,08
	19-20	130-230	30-90	30-100		0,02-0,08
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,02-0,08
	26-28	90-110	50-110			0,02-0,08
	29-30	/	20-100			0,02-0,08
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,005-0,05
	36-37	400-1050 ¹⁾		30-80		0,005-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

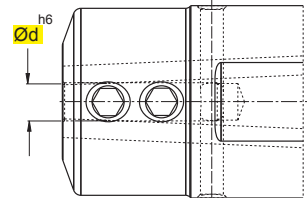
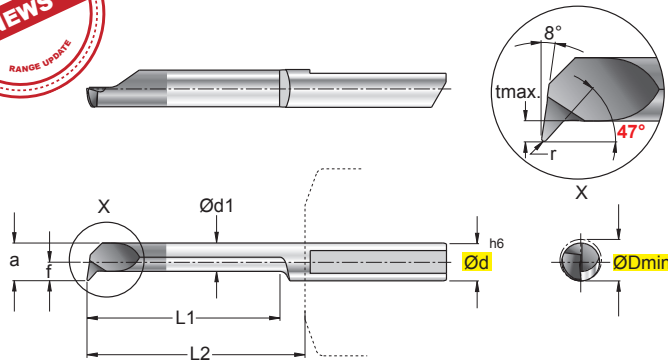
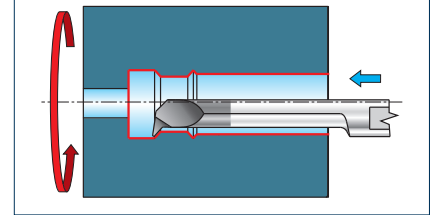
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S101-...9847-...R/L

Tornitura Interna - Internal Turning



art. S100-TS-..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
		ØDmin	Ød	Ød1	f	a	tmax	r	L1	L2							NON RIV.	RIVESTITI		
																	CEMENTED	COATED GRADES		
S101-04.9847-022-10.010R/L New		2,2	4	1,35	0,95	1,95	0,4	0,1	10	13	●	●	○	●	○	■		■		
S101-04.9847-027-15.010R/L New		2,7	4	1,75	1,2	2,45	0,5	0,1	15	18	●	●	○	●	○	■		■		
S101-04.9847-032-15.010R/L		3,2	4	2,15	1,45	2,95	0,6	0,1	15	18	●	●	○	●	○	■		■		
S101-04.9847-042-20.015R/L		4,2	4	2,95	1,95	3,95	0,8	0,15	20	23	●	●	○	●	○	■		■		
S101-05.9847-052-15.015R/L		5,2	5	3,75	2,45	4,95	1,0	0,15	15	18	●	●	○	●	○	■		■		
S101-05.9847-052-25.015R/L		5,2	5	3,75	2,45	4,95	1,0	0,15	25	28	●	●	○	●	○	■		■		
S101-06.9847-062-20.015R/L		6,2	6	3,95	2,95	5,95	1,8	0,15	20	23	●	●	○	●	○	■		■		
S101-06.9847-062-30.015R/L		6,2	6	3,95	2,95	5,95	1,8	0,15	30	33	●	●	○	●	○	■		■		
S101-07.9847-072-40.020R/L		7,2	7	4,15	3,45	6,95	2,5	0,2	40	43	●	●	○	●	○	■		■		

MATERIALI - MATERIALS		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-200		0,02-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-170		0,02-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-110		0,02-0,08
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,02-0,08
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,02-0,08
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,02-0,08
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,02-0,08
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,02-0,08
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,02-0,08
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,02-0,08
	NON METALLICI - PLASTICS	29-30	/	20-100			0,02-0,08
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,005-0,05
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,005-0,05
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

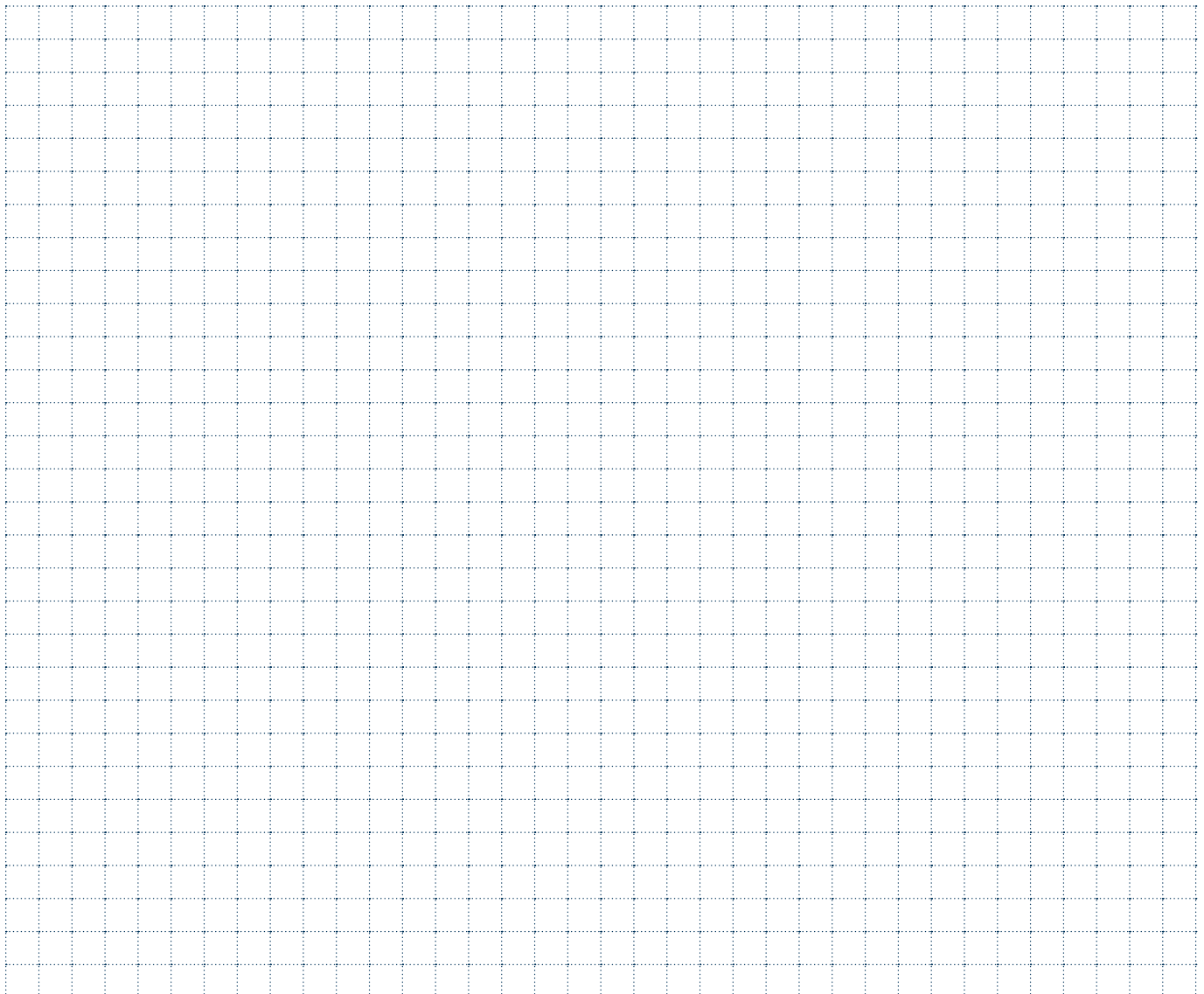
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED

n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS

fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION

Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

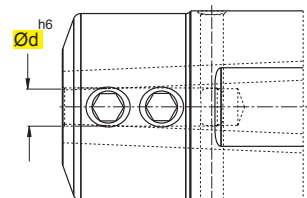
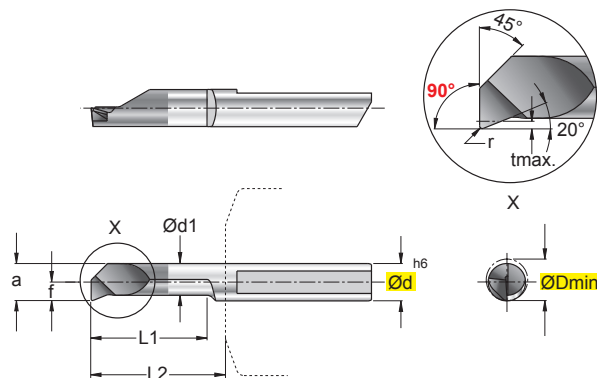
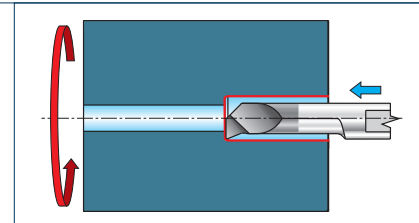
NOTE - NOTES



S101-05.9020-052...020R/L

Tornitura Interna - Internal Turning

NEW



art. S100-TS-05..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
	 	ØDmin	Ød	Ød1	f	a	tmax	r	L1	L2							NON RIV.	RIVESTITI		
																	CEMENTED	COATED GRADES		
S101-05.9020-052-10.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	10	13	●	●	○	●	○	■		■		
S101-05.9020-052-15.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	15	18	●	●	○	●	○	■		■		
S101-05.9020-052-20.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	20	23	●	●	○	●	○	■		■		

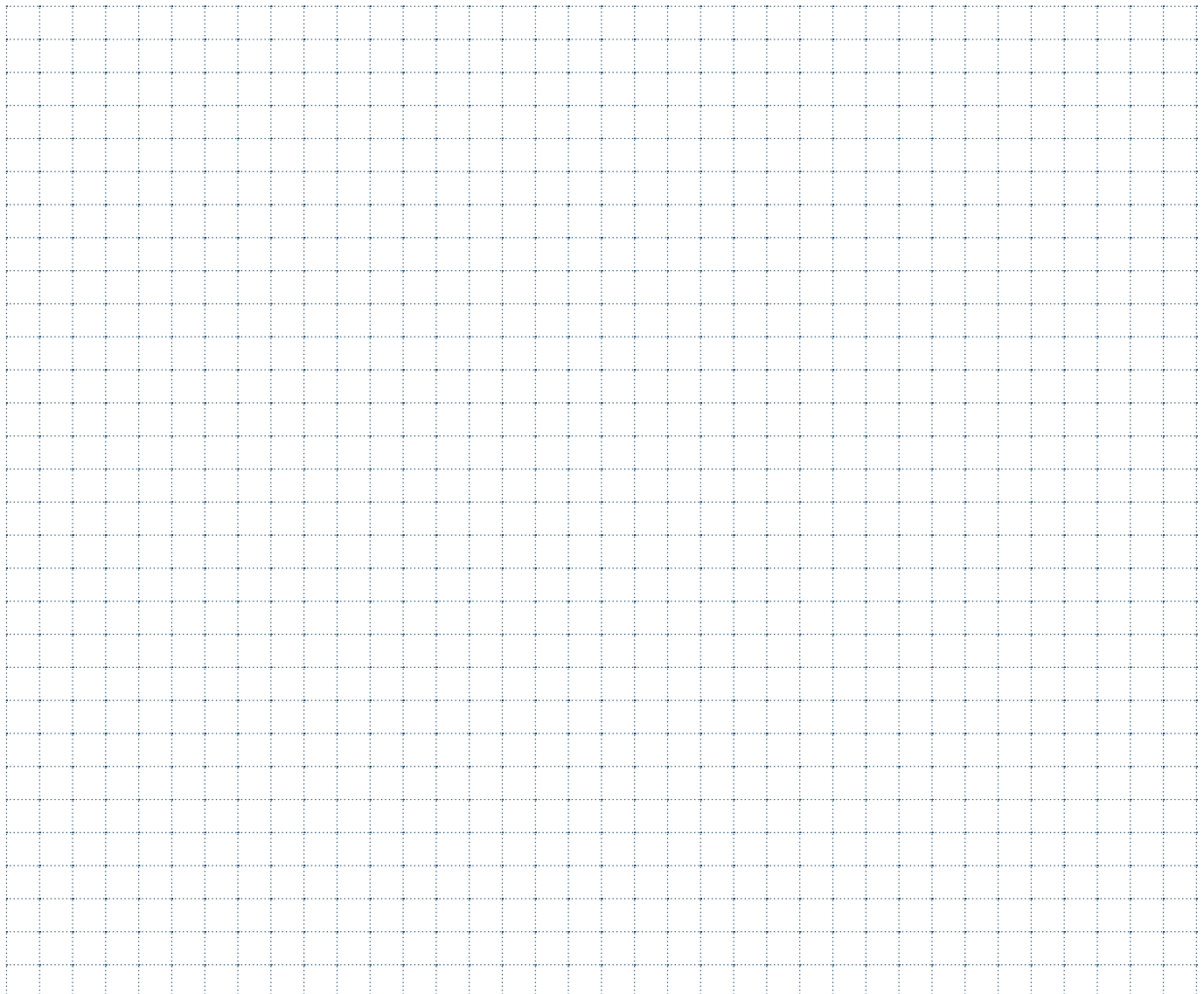
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-200		0,02-0,08
	6-9	180-350		80-170		0,02-0,08
	10-11	200-325		60-110		0,02-0,08
	12-13	200-240		50-100		0,02-0,08
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,02-0,08
K GHISA GRIGIA - GREY CAST IRON GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	15-16	180-260	30-90	30-150		0,02-0,08
	17-18	160-250	25-80	30-130		0,02-0,08
	19-20	130-230	30-90	30-100		0,02-0,08
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,02-0,08
	26-28	90-110	50-110			0,02-0,08
	29-30	/	20-100			0,02-0,08
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,005-0,05
	36-37	400-1050 ¹⁾		30-80		0,005-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\text{ØD} \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

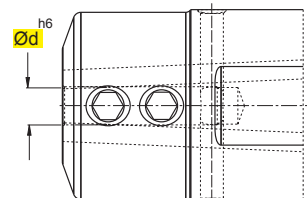
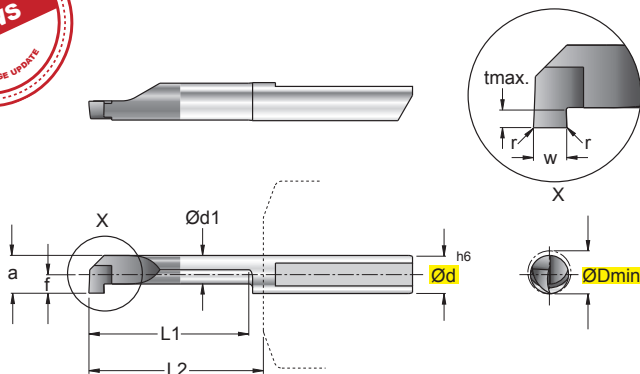
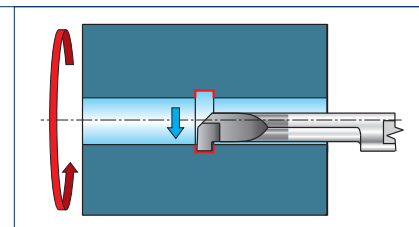
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S102-04...-...R/L

Scanalatura - Grooving



art. S100-TS-04..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC	
	ØDmin	Ød	Ød1	f	a	tmax	r	^{+0.03} ₀ w	L1	L2							NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S102-04.0050-020-09.000R/L New	2,0	4	1,15	0,85	1,75	0,4	-	0,5	9	13	●	●	○	●	○		■		■	
S102-04.0070-030-08.000R/L	3,0	4	1,95	1,35	2,75	0,6	-	0,7	8	13	●	●	○	●	○		■		■	
S102-04.0079-042-10.000R/L New	4,2	4	2,95	1,95	3,95	0,8	-	0,79	10	13	●	●	○	●	○		■		■	
S102-04.0100-042-10.000R/L	4,2	4	2,95	1,95	3,95	0,8	-	1,0	10	13	●	●	○	●	○		■		■	
S102-04.0100-042-15.000R/L New	4,2	4	2,95	1,95	3,95	0,8	-	1,0	15	18	●	●	○	●	○		■		■	
S102-04.0100-042-20.000R/L	4,2	4	2,95	1,95	3,95	0,8	-	1,0	20	23	●	●	○	●	○		■		■	

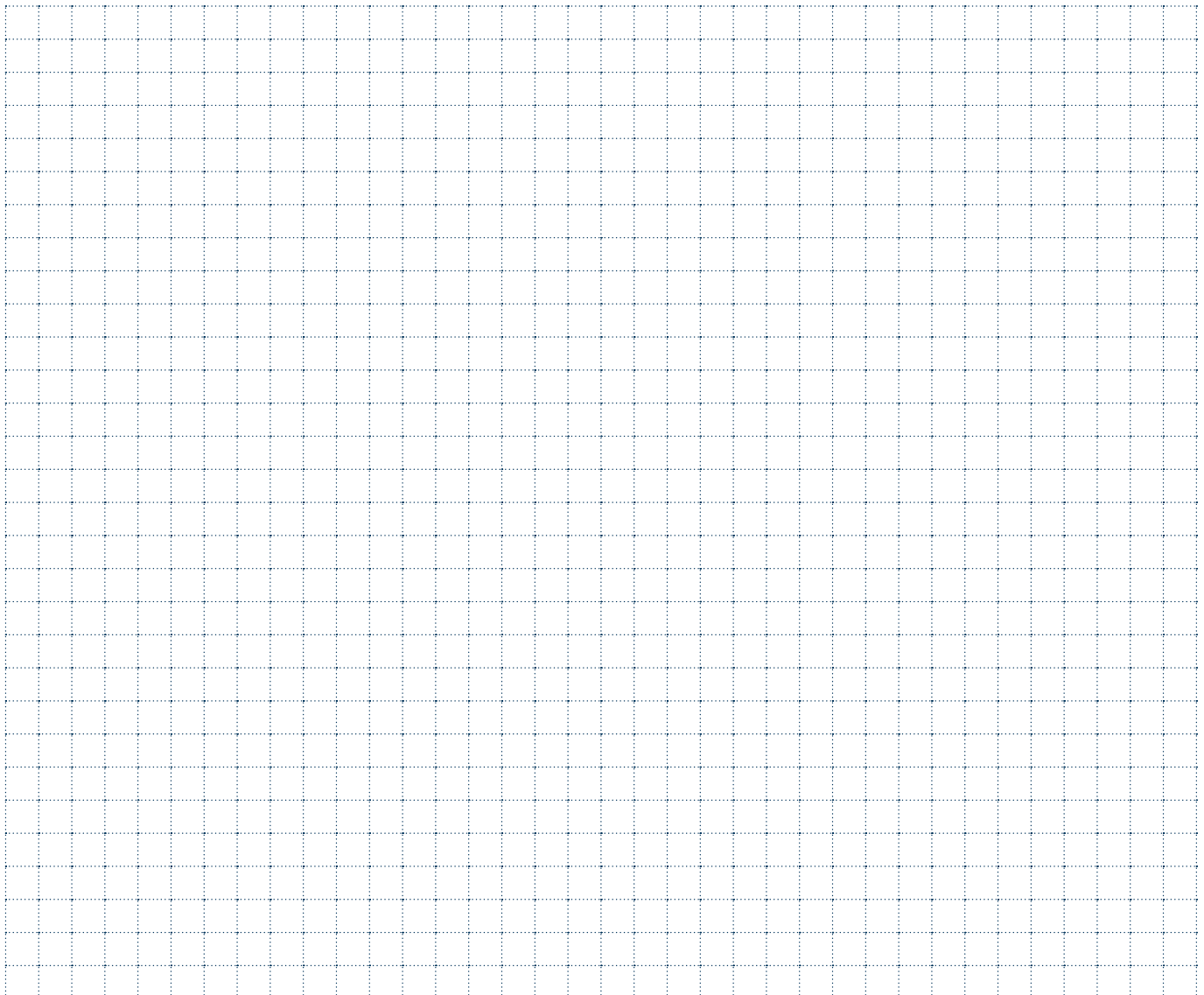
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,03
	6-9	180-350		80-110		0,01-0,03
	10-11	200-325		60-100		0,01-0,03
	12-13	200-240		50-100		0,01-0,03
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,03
	15-16	180-260	30-90	30-150		0,01-0,03
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,03
	19-20	130-230	30-90	30-100		0,01-0,03
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,03
	26-28	90-110	50-110			0,01-0,03
	29-30	/	20-80			0,01-0,03
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,03
	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

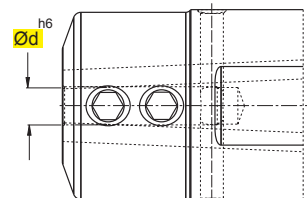
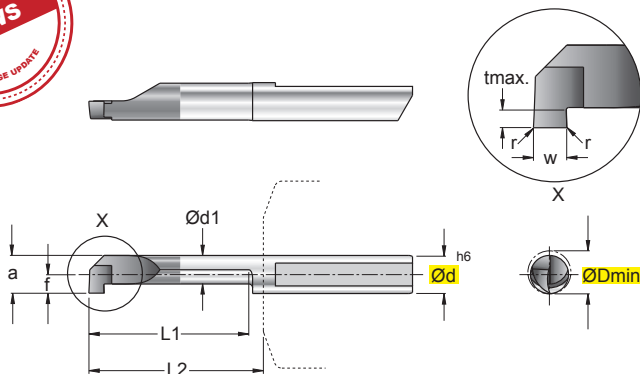
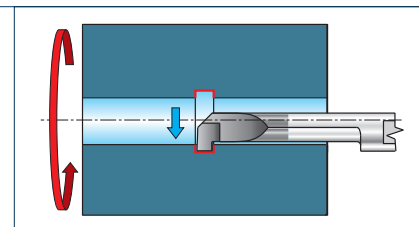
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S102-05...-...R/L

Scanalatura - Grooving



art. S100-TS-05..

In figura utensile destro - Right-hand shown

ART.	(mm)											P	M	K	N	S	H	HW		HC	
	 	ØDmin	Ød	Ød1	f	a	tmax	r	w	L1	L2							NON RIV.	RIVESTITI		
																		CEMENTED CARBIDE GRADES	COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S102-05.0150-050-10.000R/L		5,0	5	3,30	1,9	4,40	1,0	-	1,5	10	13	●	●	○	●	○	■		■		
S102-05.0079-052-10.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	0,79	10	13	●	●	○	●	○	■		■		
S102-05.0079-052-20.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	0,79	20	23	●	●	○	●	○	■		■		
S102-05.0100-052-10.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,0	10	13	●	●	○	●	○	■		■		
S102-05.0100-052-15.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,0	15	18	●	●	○	●	○	■		■		
S102-05.0100-052-20.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,0	20	23	●	●	○	●	○	■		■		
S102-05.0100-052-30.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,0	30	33	●	●	○	●	○	■		■		
S102-05.0150-052-10.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	10	13	●	●	○	●	○	■		■		
S102-05.0150-052-15.000R/L New		5,2	5	3,75	2,45	4,95	1,0	-	1,5	15	18	●	●	○	●	○	■		■	■	
S102-05.0150-052-20.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	20	23	●	●	○	●	○	■		■		
S102-05.0150-052-25.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	25	28	●	●	○	●	○	■		■		
S102-05.0150-052-30.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	30	33	●	●	○	●	○	■		■		
S102-05.0150-052-35.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	35	38	●	●	○	●	○	■		■		
S102-05.0200-052-10.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	10	13	●	●	○	●	○	■		■		
S102-05.0200-052-15.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	15	18	●	●	○	●	○	■		■		
S102-05.0200-052-20.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	20	23	●	●	○	●	○	■		■		
S102-05.0200-052-25.000R/L New		5,2	5	3,75	2,45	4,95	1,0	-	2,0	25	28	●	●	○	●	○	■		■	■	
S102-05.0200-052-30.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	30	33	●	●	○	●	○	■		■		

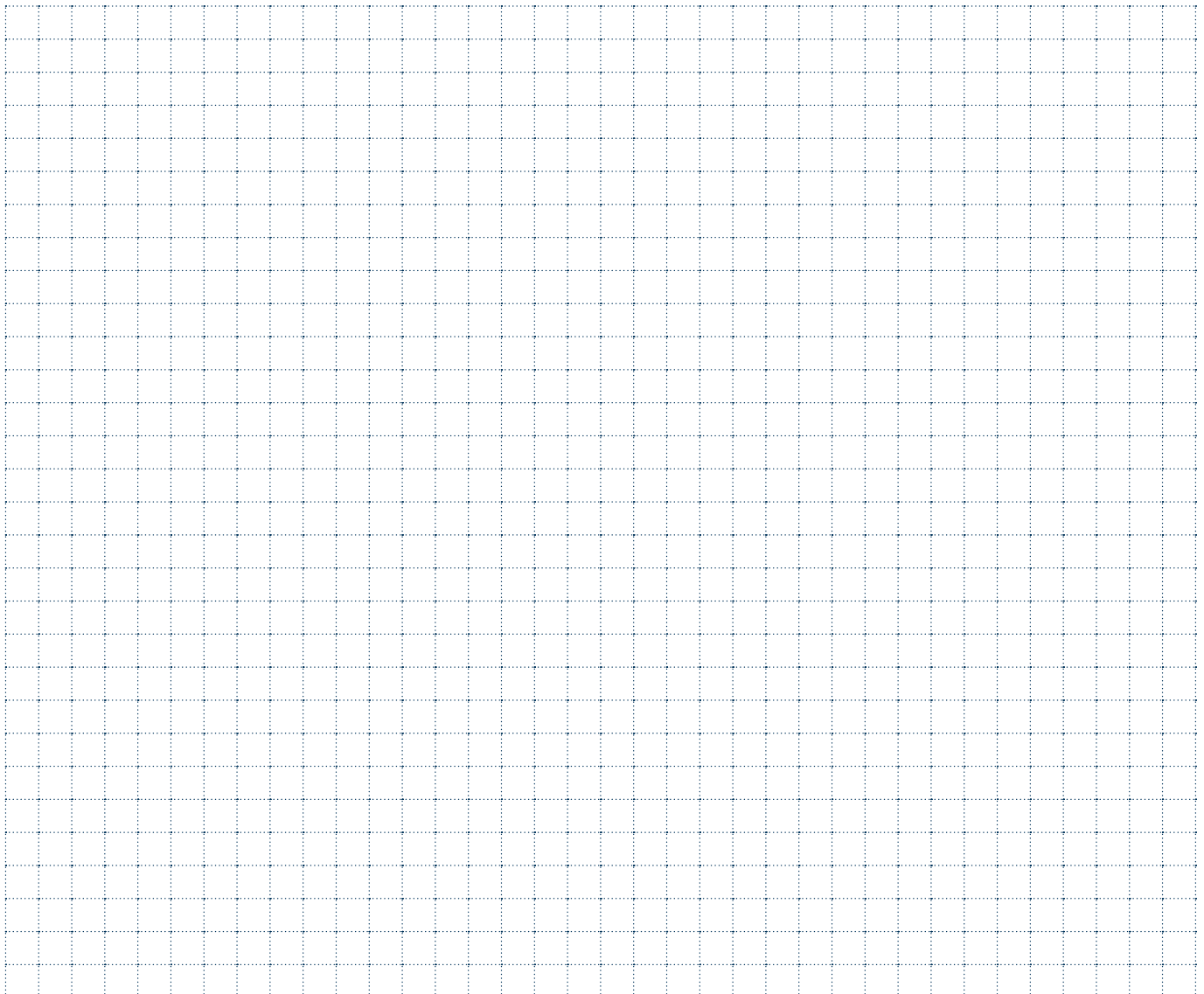
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min				fn mm
			N3635	F7835			
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160			0,01-0,03
	6-9	180-350		80-110			0,01-0,03
	10-11	200-325		60-100			0,01-0,03
	12-13	200-240		50-100			0,01-0,03
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80			0,01-0,03
	15-16	180-260	30-90	30-150			0,01-0,03
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130			0,01-0,03
	19-20	130-230	30-90	30-100			0,01-0,03
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150				0,01-0,03
	26-28	90-110	50-110				0,01-0,03
	29-30	/	20-80				0,01-0,03
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80			0,01-0,03
	36-37	400-1050 ¹⁾		30-80			0,01-0,03
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾					

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

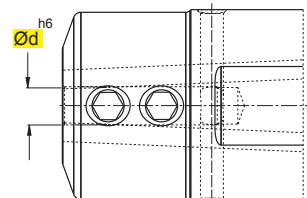
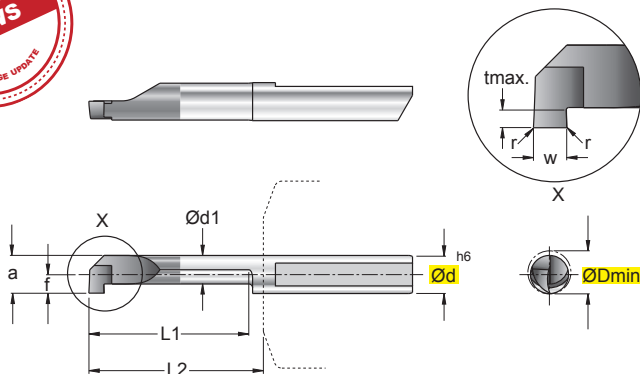
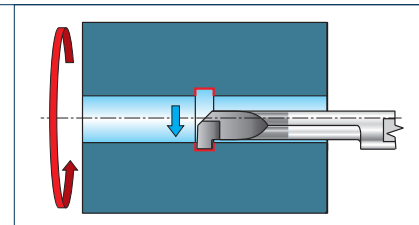
- Vc** = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S102-06...-...R/L

Scanalatura - Grooving



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC			
		ØDmin	Ød	Ød1	f	a	tmax	r	w	L1							L2	<small>+0.03 0</small>	NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S102-06.0100-062-10.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,0	10	13						■		■			
S102-06.0100-062-15.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,0	15	18						■		■			
S102-06.0100-062-20.000R/L New		6,2	6	3,95	2,95	5,95	1,8	-	1,0	20	23						■		■			
S102-06.0100-062-25.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,0	25	28						■		■			
S102-06.0100-062-35.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,0	35	38						■		■			
S102-06.0150-062-10.000R/L New		6,2	6	3,95	2,95	5,95	1,8	-	1,5	10	13						■		■			
S102-06.0150-062-15.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,5	15	18						■		■			
S102-06.0150-062-20.000R/L New		6,2	6	3,95	2,95	5,95	1,8	-	1,5	20	23						■		■			
S102-06.0150-062-25.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,5	25	28						■		■			
S102-06.0150-062-35.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,5	35	38						■		■			
S102-06.0200-062-10.000R/L New		6,2	6	3,95	2,95	5,95	1,8	-	2,0	10	13						■		■			
S102-06.0200-062-15.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	15	18						■		■			
S102-06.0200-062-20.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	20	23						■		■			
S102-06.0200-062-25.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	25	28						■		■			
S102-06.0200-062-30.000R/L New		6,2	6	3,95	2,95	5,95	1,8	-	2,0	30	33						■		■			
S102-06.0200-062-35.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	35	38						■		■			

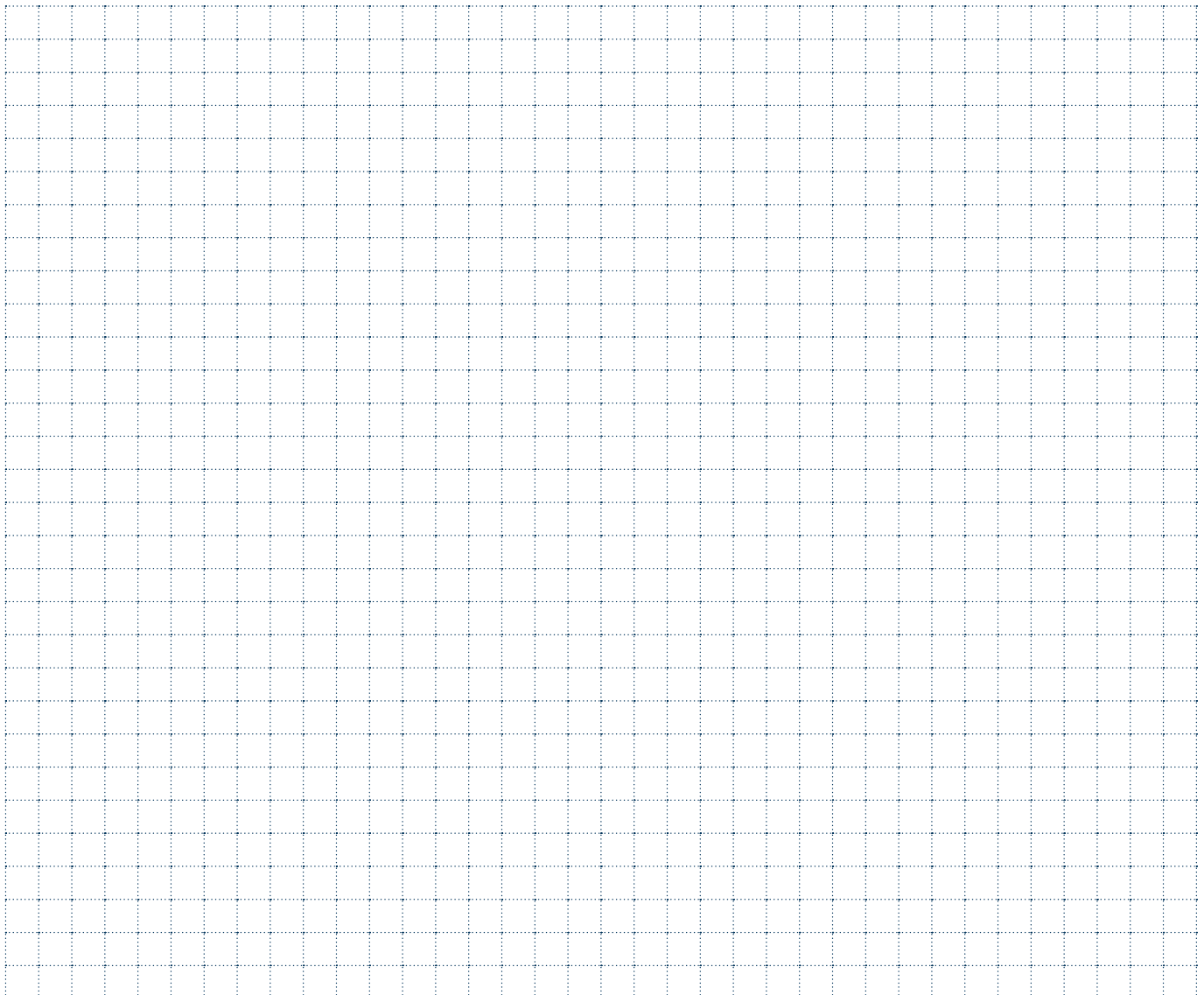
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,03
	6-9	180-350		80-110		0,01-0,03
	10-11	200-325		60-100		0,01-0,03
	12-13	200-240		50-100		0,01-0,03
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,03
	15-16	180-260	30-90	30-150		0,01-0,03
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,03
	19-20	130-230	30-90	30-100		0,01-0,03
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,03
	26-28	90-110	50-110			0,01-0,03
	29-30	/	20-80			0,01-0,03
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,03
	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

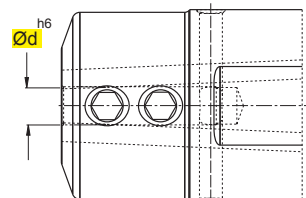
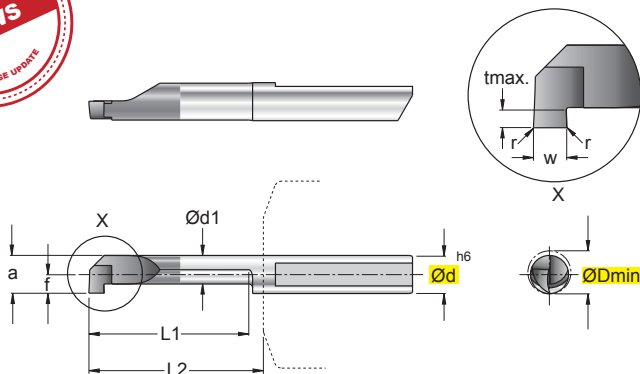
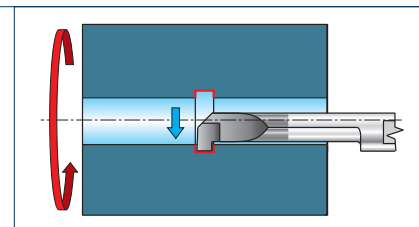
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S102-07...-...R/L

Scanalatura - Grooving



art. S100-TS-07..

In figura utensile destro - Right-hand shown

ART.	(mm)										P	M	K	N	S	H	HW		HC		
		ØDmin	Ød	Ød1	f	a	tmax	r	w	L1							L2	NON RIV.	RIVESTITI		
																		CEMENTED CARBIDE GRADES	COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S102-07.0100-072-15.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,0	15	18	●	●	○	●	○	■		■		
S102-07.0100-072-20.000R/L New		7,2	7	4,25	3,45	6,95	2,5	-	1,0	20	23	●	●	○	●	○	■			■	
S102-07.0100-072-25.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,0	25	28	●	●	○	●	○	■			■	
S102-07.0100-072-35.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,0	35	38	●	●	○	●	○	■			■	
S102-07.0150-072-10.000R/L New		7,2	7	4,25	3,45	6,95	2,5	-	1,5	10	13	●	●	○	●	○	■			■	
S102-07.0150-072-15.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,5	15	18	●	●	○	●	○	■			■	
S102-07.0150-072-20.000R/L New		7,2	7	4,25	3,45	6,95	2,5	-	1,5	20	23	●	●	○	●	○	■			■	
S102-07.0150-072-25.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,5	25	28	●	●	○	●	○	■			■	
S102-07.0150-072-30.000R/L New		7,2	7	4,25	3,45	6,95	2,5	-	1,5	30	33	●	●	○	●	○	■			■	
S102-07.0150-072-35.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,5	35	38	●	●	○	●	○	■			■	
S102-07.0150-072-40.000R/L New		7,2	7	4,25	3,45	6,95	2,5	-	1,5	40	43	●	●	○	●	○	■			■	
S102-07.0157-072-10.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,57	10	13	●	●	○	●	○	■			■	
S102-07.0200-072-10.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	2,0	10	13	●	●	○	●	○	■			■	
S102-07.0200-072-15.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	2,0	15	18	●	●	○	●	○	■			■	
S102-07.0200-072-20.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	2,0	20	23	●	●	○	●	○	■			■	
S102-07.0200-072-25.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	2,0	25	28	●	●	○	●	○	■			■	
S102-07.0200-072-30.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	2,0	30	33	●	●	○	●	○	■			■	
S102-07.0200-072-35.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	2,0	35	38	●	●	○	●	○	■			■	

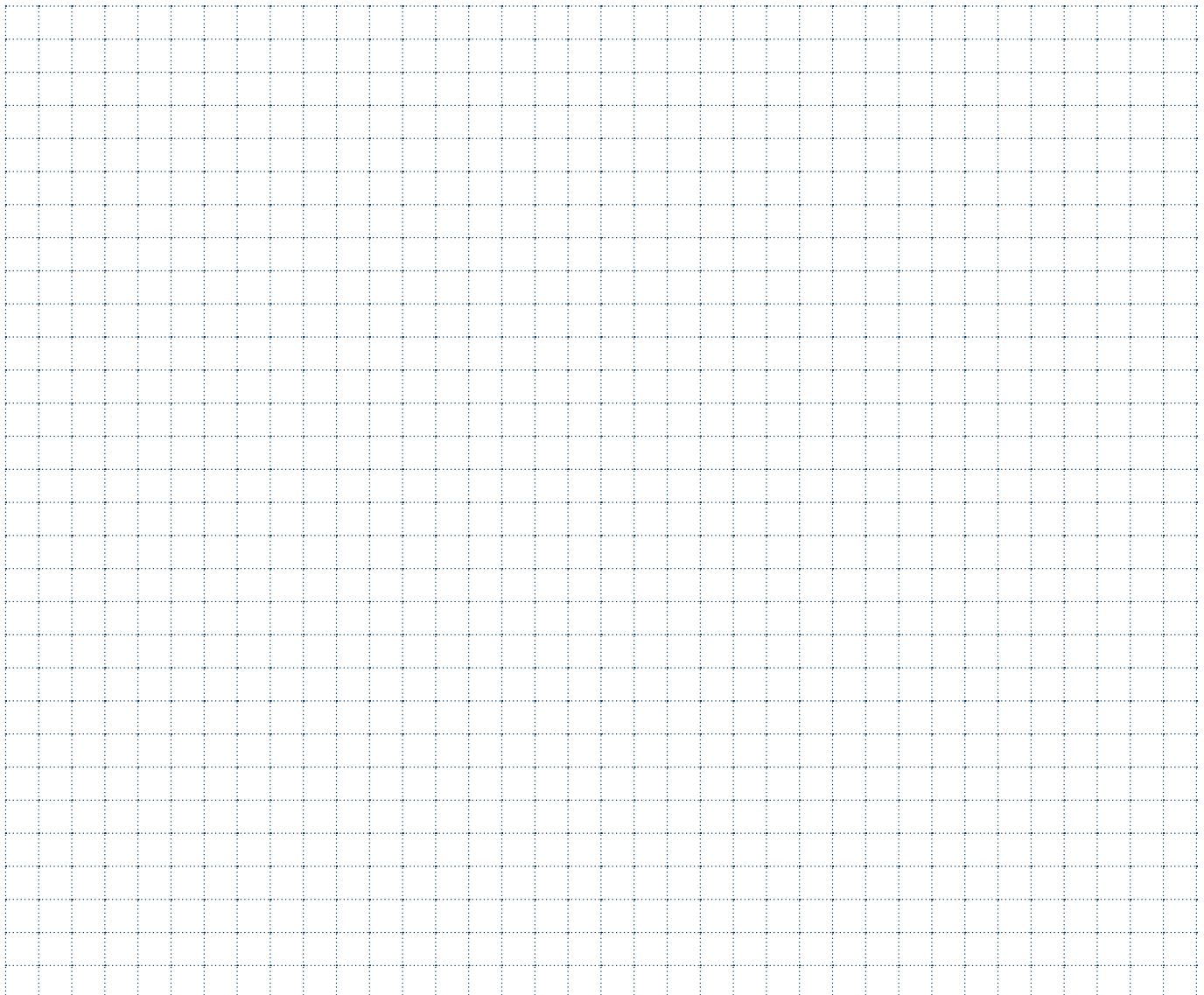
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,03
	6-9	180-350		80-110		0,01-0,03
	10-11	200-325		60-100		0,01-0,03
	12-13	200-240		50-100		0,01-0,03
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,03
	15-16	180-260	30-90	30-150		0,01-0,03
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,03
	19-20	130-230	30-90	30-100		0,01-0,03
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,03
	26-28	90-110	50-110			0,01-0,03
	29-30	/	20-80			0,01-0,03
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,03
	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

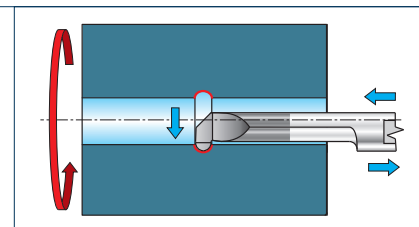
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES

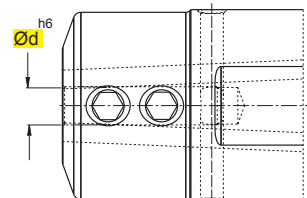
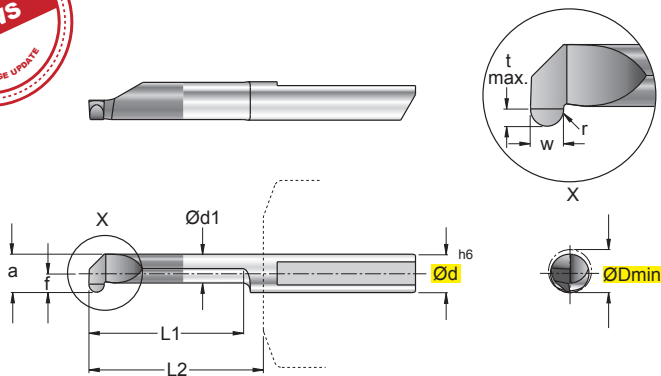


S102-...R...-...R/L

Scanalatura - Grooving



NEW



art. S100-TS-..

In figura utensile destro - Right-hand shown

ART.	(mm)											P	M	K	N	S	H	HW		HC	
	ØDmin	Ød	Ød1	f	a	tmax	r	^{+0.03} ₀ w	L1	L2	NON RIV. CEMENTED CARBIDE GRADES							RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS			
S102-04.R100-042-15.050R/L New	4,2	4	2,95	1,95	3,95	0,8	0,5	1	15	18	●	●	●	●	○		■		■		
S102-05.R100-052-20.050R/L	5,2	5	3,75	2,45	4,95	1,0	0,5	1	20	23	●	●	●	●	○		■		■		
S102-05.R200-052-20.100R/L	5,2	5	3,75	2,45	4,95	1,0	1,0	2	20	23	●	●	●	●	○		■		■		
S102-06.R100-062-25.050R/L	6,2	6	3,95	2,95	5,95	1,8	0,5	1	25	28	●	●	●	●	○		■		■		
S102-06.R150-062-25.075R/L New	6,2	6	3,95	2,95	5,95	1,8	0,75	1,5	25	28	●	●	●	●	○		■		■		
S102-06.R200-062-20.100R/L New	6,2	6	3,95	2,95	5,95	1,8	1,0	2	20	23	●	●	●	●	○		■		■		
S102-06.R200-062-25.100R/L	6,2	6	3,95	2,95	5,95	1,8	1,0	2	25	28	●	●	●	●	○		■		■		
S102-07.R100-072-30.050R/L New	7,2	7	4,25	3,45	6,95	2,5	0,5	1	30	33	●	●	●	●	○		■		■		
S102-07.R150-072-30.075R/L New	7,2	7	4,25	3,45	6,95	2,5	0,75	1,5	30	33	●	●	●	●	○		■		■		
S102-07.R200-072-30.100R/L New	7,2	7	4,25	3,45	6,95	2,5	1,0	2	30	33	●	●	●	●	○		■		■		

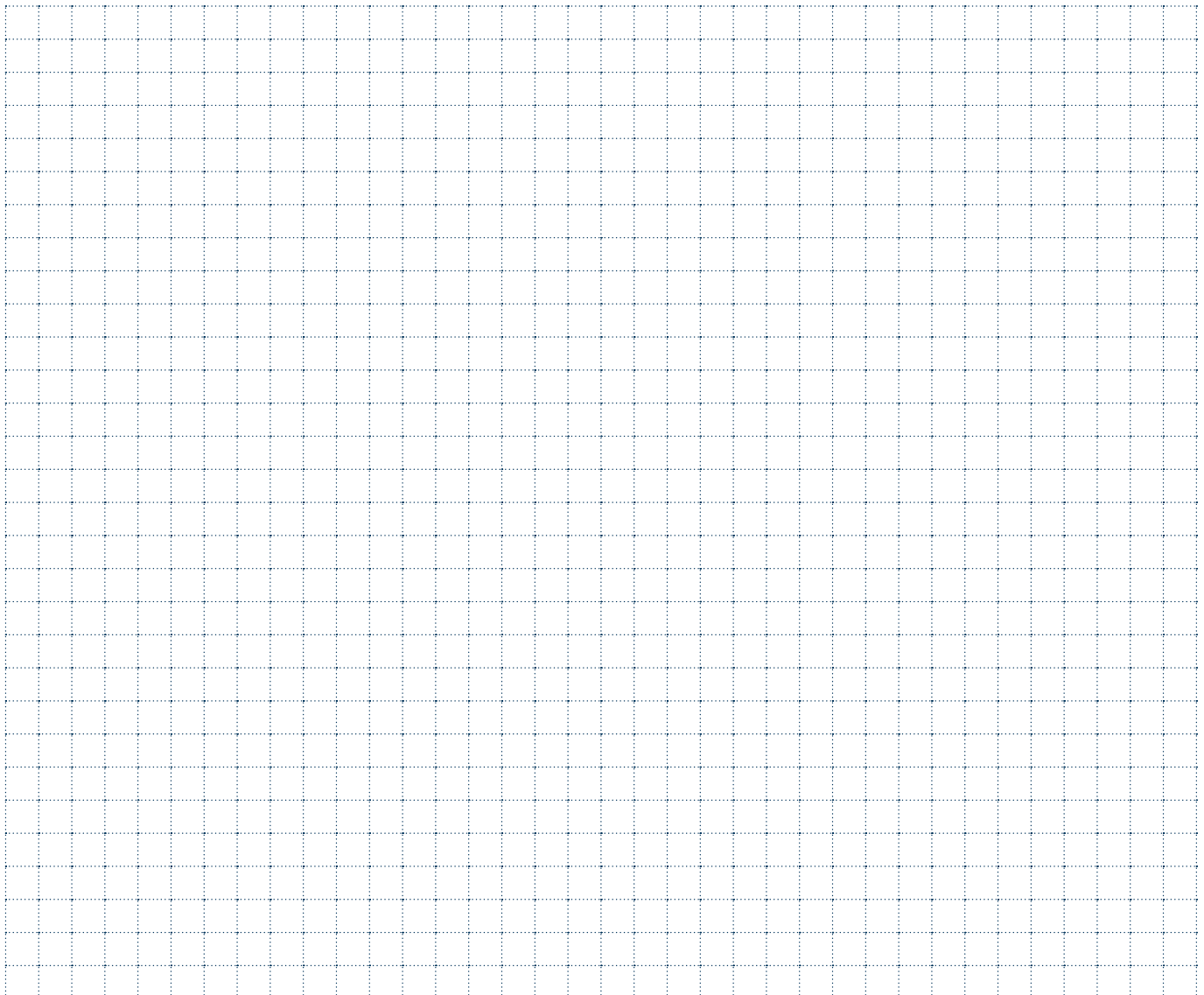
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,03
	6-9	180-350		80-110		0,01-0,03
	10-11	200-325		60-100		0,01-0,03
	12-13	200-240		50-100		0,01-0,03
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,03
	15-16	180-260	30-90	30-150		0,01-0,03
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,03
	19-20	130-230	30-90	30-100		0,01-0,03
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,03
	26-28	90-110	50-110			0,01-0,03
	29-30	/	20-80			0,01-0,03
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,03
	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

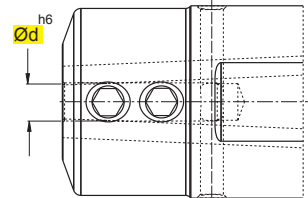
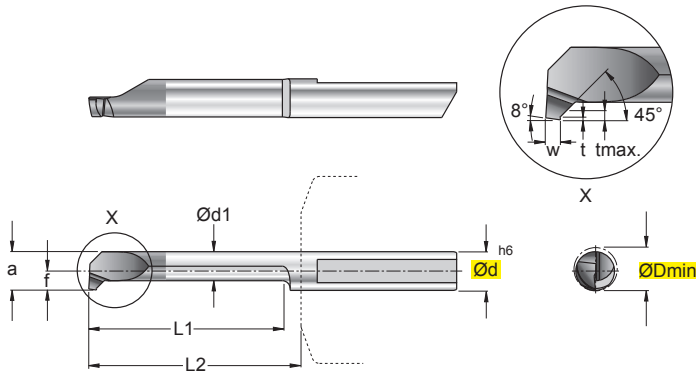
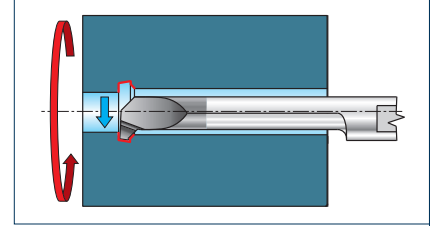
NOTE - NOTES



S105-...0100-...000R/L

**Pretaglio e smussatura
Pre-part-Off and Chamfering**

NEW



art. S100-TS-..

In figura utensile destro - Right-hand shown

ART.	(mm)											P	M	K	N	S	H	HW		HC	
		ØDmin	Ød	Ød1	f	a	t	tmax	w	L1	L2							NON RIV. CEMENTED CARBIDE GRADES		RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	
																		N3635	F7835		
S105-04.0100-037-10.000R/L		3,7	4	2,45	1,7	3,45	0,2	0,7	1	10	13	●	●	○	●	○	■		■		
S105-04.0100-037-15.000R/L		3,7	4	2,45	1,7	3,45	0,2	0,7	1	15	18	●	●	○	●	○	■		■		
S105-04.0100-042-20.000R/L		4,2	4	2,95	1,95	3,95	0,2	0,7	1	20	23	●	●	○	●	○	■		■		
S105-04.0100-042-25.000R/L New		4,2	4	2,95	1,95	3,95	0,2	0,7	1	25	28	●	●	○	●	○	■		■		
S105-05.0100-052-15.000R/L		5,2	5	3,75	2,45	4,95	0,2	0,7	1	15	18	●	●	○	●	○	■		■		
S105-05.0100-052-20.000R/L		5,2	5	3,75	2,45	4,95	0,2	0,7	1	20	23	●	●	○	●	○	■		■		
S105-05.0100-052-25.000R/L		5,2	5	3,75	2,45	4,95	0,2	0,7	1	25	28	●	●	○	●	○	■		■		
S105-05.0100-052-30.000R/L		5,2	5	3,75	2,45	4,95	0,2	0,7	1	30	33	●	●	○	●	○	■		■		
S105-06.0100-062-30.000R/L		6,2	6	3,95	2,95	5,95	0,2	0,7	1	30	33	●	●	○	●	○	■		■		
S105-06.0100-062-40.000R/L		6,2	6	3,95	2,95	5,95	0,2	0,7	1	40	43	●	●	○	●	○	■		■		

■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ **NEW**
●● APPLICAZIONE CONSIGLIATA-RECOMMENDED APPLICATION
EMPFOLHENER EINSATZ - APPLICATION CONSEILLÉE

□ A RICHIESTA - ON REQUEST - AUF ANFRAGE - SUR DEMANDE / □ **NEW**
○○ APPLICAZIONE POSSIBILE - POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

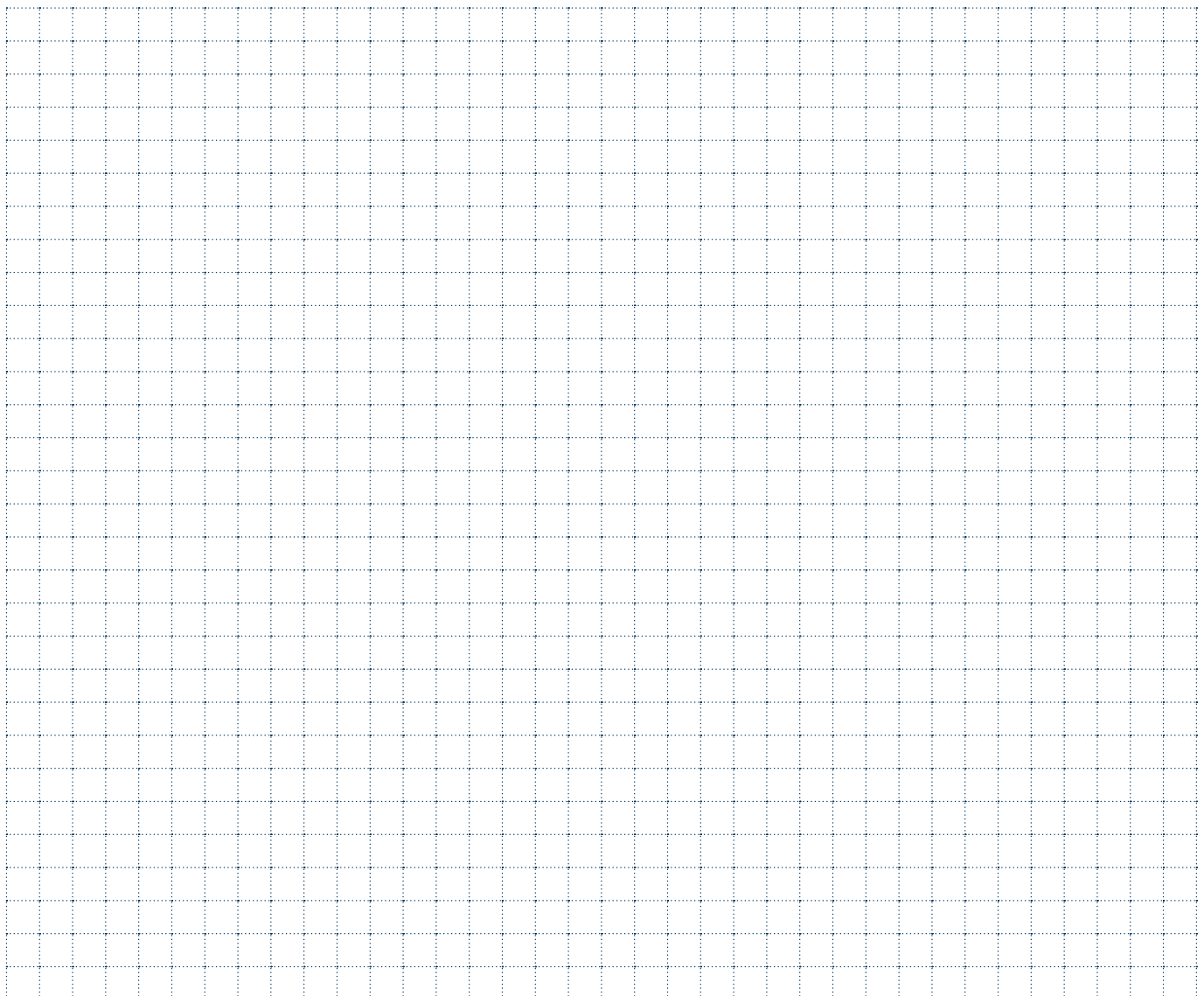
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fz mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,03
	6-9	180-350		80-110		0,01-0,03
	10-11	200-325		60-100		0,01-0,03
	12-13	200-240		50-100		0,01-0,03
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,03
	15-16	180-260	30-90	30-150		0,01-0,03
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,03
	19-20	130-230	30-90	30-100		0,01-0,03
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,03
	26-28	90-110	50-110			0,01-0,03
	29-30	/	20-80			0,01-0,03
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,03
	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

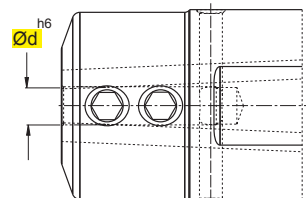
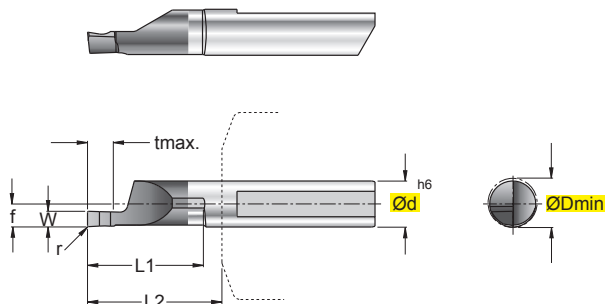
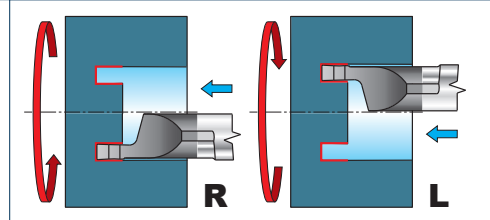
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S103-06...-I62-15.015R/L

Scanalatura Frontale - Face Grooving



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)									P	M	K	N	S	H	HW		HC	
	 	ØDmin	Ød	f	tmax	r	$\begin{matrix} +0,05 \\ 0 \end{matrix}$ w	L1	L2							NON RIV.	RIVESTITI		
																CEMENTED	COATED GRADES		
S103-06.0100-I62-15.015R/L		6,2	6	2,95	2	0,15	1,0	15	18	●	●	○	●	○	■		■		
S103-06.0150-I62-15.015R/L		6,2	6	2,95	3	0,15	1,5	15	18	●	●	○	●	○	■		■		
S103-06.0200-I62-15.015R/L		6,2	6	2,95	4	0,15	2,0	15	18	●	●	○	●	○	■		■		
S103-06.0239-I62-15.015R/L		6,2	6	2,95	5	0,15	2,39	15	18	●	●	○	●	○	■		■		
S103-06.0250-I62-15.015R/L		6,2	6	2,95	5	0,15	2,5	15	18	●	●	○	●	○	■		■		
S103-06.0300-I62-15.015R/L		6,2	6	2,95	6	0,15	3,0	15	18	●	●	○	●	○	■		■		

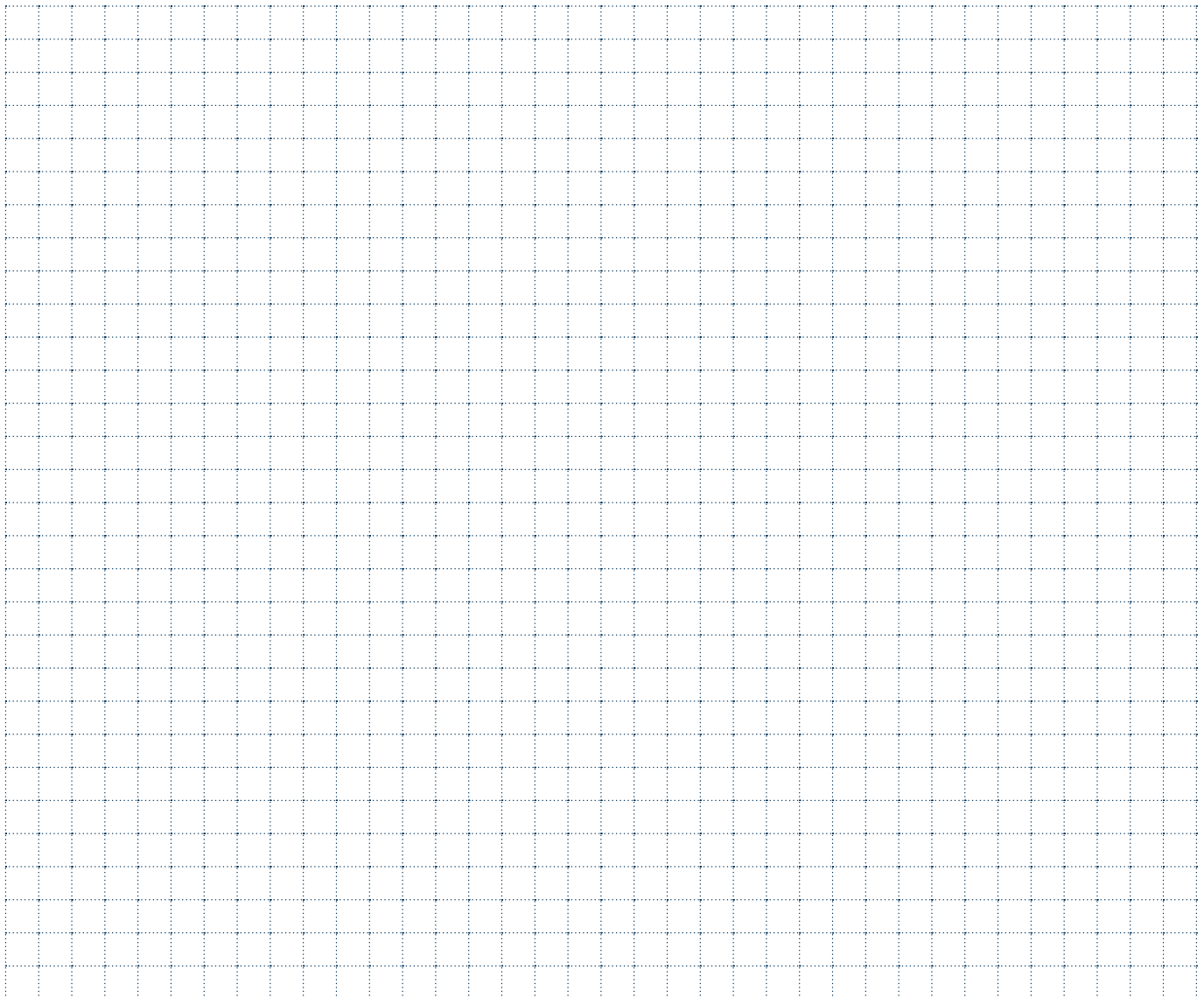
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,05
	6-9	180-350		80-110		0,01-0,05
	10-11	200-325		60-100		0,01-0,05
	12-13	200-240		50-100		0,01-0,05
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,05
	15-16	180-260	30-90	30-150		0,01-0,05
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,05
	19-20	130-230	30-90	30-100		0,01-0,05
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,05
	26-28	90-110	50-110			0,01-0,05
	29-30	/	20-80			0,01-0,05
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,05
	36-37	400-1050 ¹⁾		30-80		0,01-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

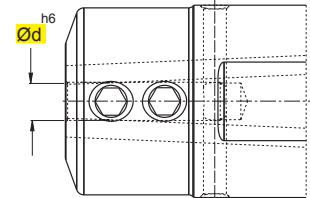
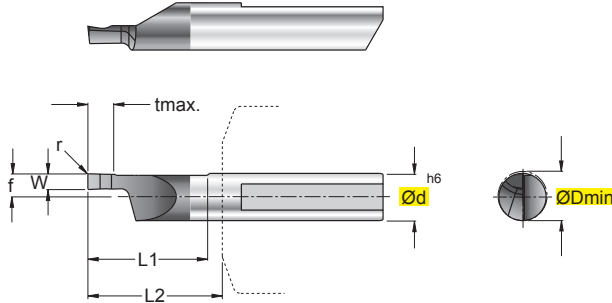
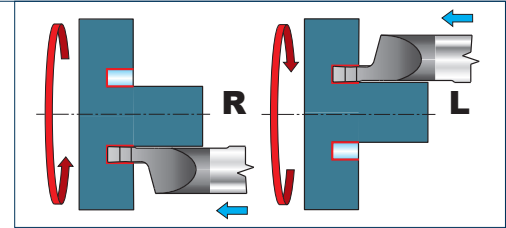
$$Vf = fn \cdot n = \text{mm/min}$$

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S103-06...-E62-15.015R/L Scanalatura Frontale - Face Grooving



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)									P	M	K	N	S	H	HW		HC	
	Ødmin	Ød	f	tmax	r	$w_{+0,05/0}$	L1	L2	NON RIV. CEMENTED CARBIDE GRADES							RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS			
S103-06.0100-E62-15.015R/L	6,2	6	2,95	2	0,15	1,0	15	18	●	●	○	●	○		■		■		
S103-06.0150-E62-15.015R/L	6,2	6	2,95	3	0,15	1,5	15	18	●	●	○	●	○		■		■		
S103-06.0200-E62-15.015R/L	6,2	6	2,95	4	0,15	2,0	15	18	●	●	○	●	○		■		■		
S103-06.0239-E62-15.015R/L	6,2	6	2,95	5	0,15	2,39	15	18	●	●	○	●	○		■		■		
S103-06.0250-E62-15.015R/L	6,2	6	2,95	5	0,15	2,5	15	18	●	●	○	●	○		■		■		
S103-06.0300-E62-15.015R/L	6,2	6	2,95	6	0,15	3,0	15	18	●	●	○	●	○		■		■		

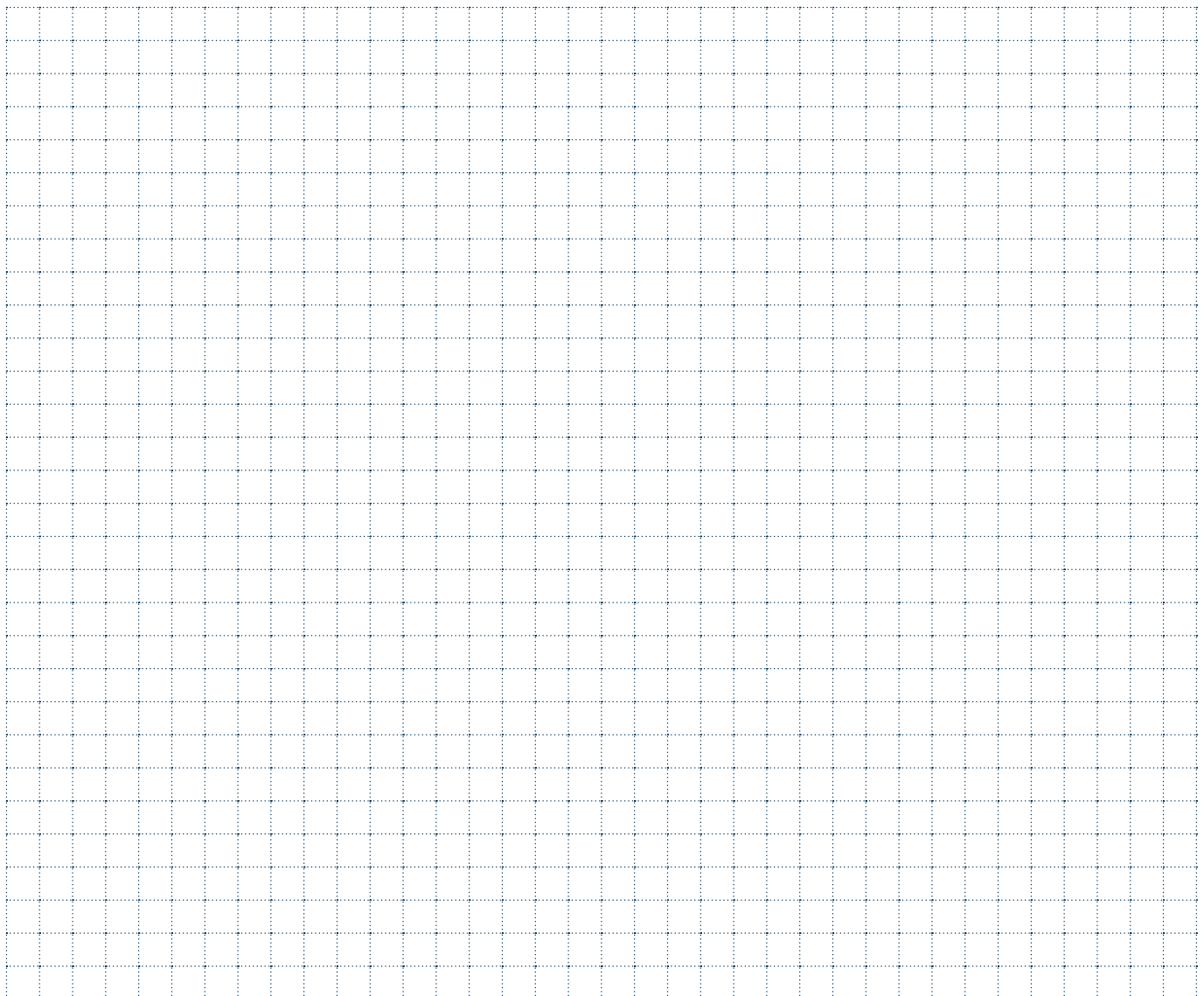
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min				fn mm
			N3635	F7835			
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160			0,01-0,05
ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110			0,01-0,05
ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100			0,01-0,05
INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100			0,01-0,05
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80			0,01-0,05
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150			0,01-0,05
GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130			0,01-0,05
GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100			0,01-0,05
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150				0,01-0,05
RAME E SUE LEGHE - COPPER	26-28	90-110	50-110				0,01-0,05
NON METALLICI - PLASTICS	29-30	/	20-80				0,01-0,05
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80			0,01-0,05
TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80			0,01-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾					

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

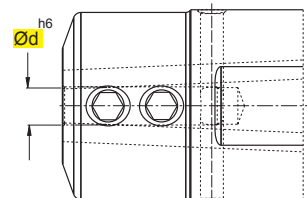
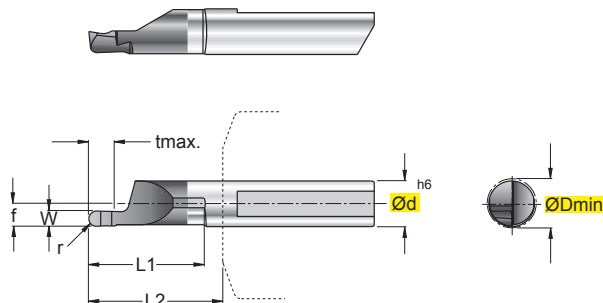
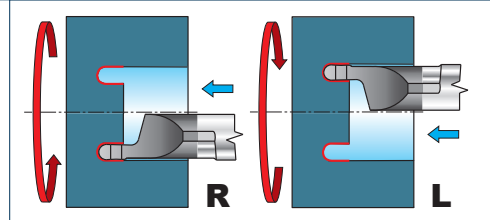
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S103-06.R...-I62-15...R/L

Scanalatura Frontale - Face Grooving



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)									P	M	K	N	S	H	HW		HC	
	 ØDmin	Ød	f	tmax	r	$w \begin{matrix} +0,05 \\ 0 \end{matrix}$	L1	L2	NON RIV. CEMENTED CARBIDE GRADES							RIVESTITI COATED GRADES / BESCHICHTET RECOUVERTS			
S103-06.R100-I62-15.050R/L	6,2	6	2,95	2	0,5	1	15	18	●	●	○	●	○		■		■		
S103-06.R160-I62-15.080R/L	6,2	6	2,95	3	0,8	1,6	15	18	●	●	○	●	○		■		■		
S103-06.R200-I62-15.100R/L	6,2	6	2,95	4	1,0	2	15	18	●	●	○	●	○		■		■		

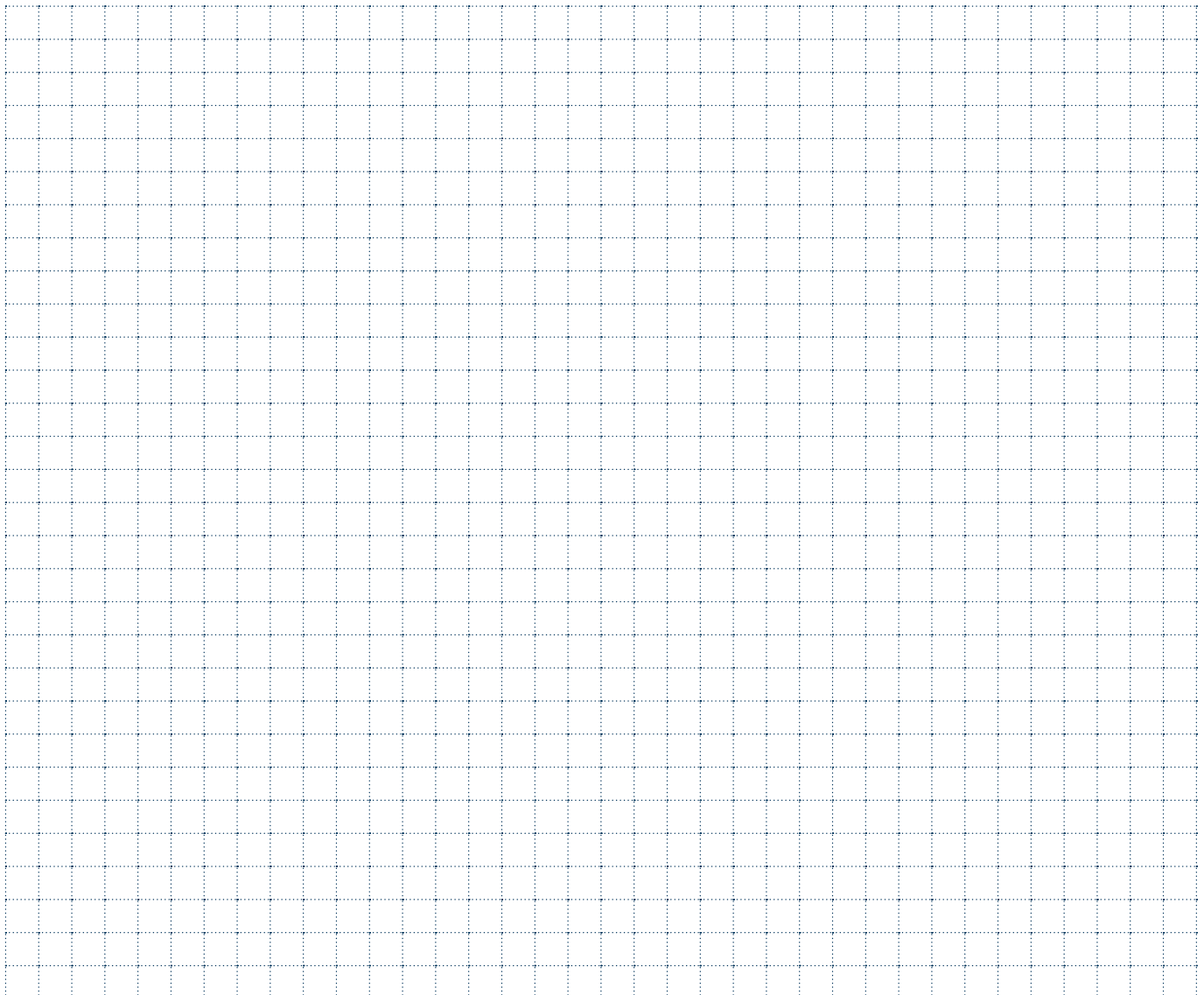
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,05
	6-9	180-350		80-110		0,01-0,05
	10-11	200-325		60-100		0,01-0,05
	12-13	200-240		50-100		0,01-0,05
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,05
	15-16	180-260	30-90	30-150		0,01-0,05
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,05
	19-20	130-230	30-90	30-100		0,01-0,05
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,05
	26-28	90-110	50-110			0,01-0,05
	29-30	/	20-80			0,01-0,05
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,05
	36-37	400-1050 ¹⁾		30-80		0,01-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

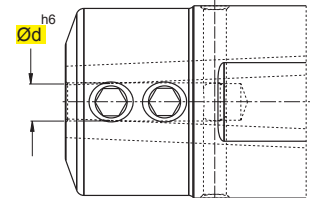
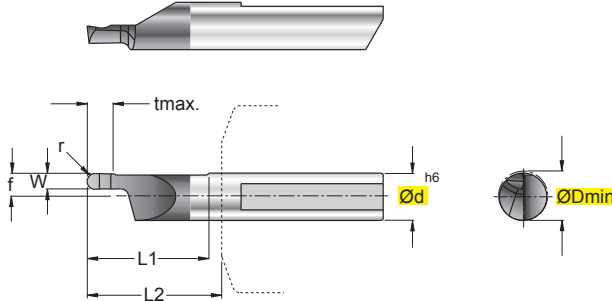
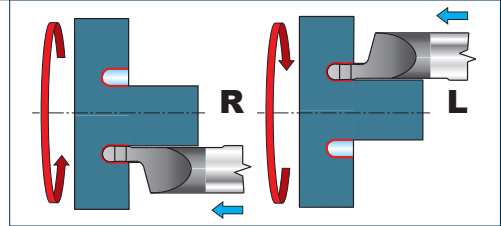
$$Vf = fn \cdot n = \text{mm/min}$$

- Vc** = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S103-06.R...-E62-15...R/L Scanalatura Frontale - Face Grooving



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)									P	M	K	N	S	H	HW		HC	
	 	ØDmin	Ød	f	tmax	r	$\begin{matrix} +0,05 \\ 0 \end{matrix}$	L1	L2							NON RIV.	RIVESTITI		
																CEMENTED	COATED GRADES		
S103-06.R100-E62-15.050R/L		6,2	6	2,95	2	0,5	1	15	18	●	●	○	●	○		■		■	
S103-06.R160-E62-15.080R/L		6,2	6	2,95	3	0,8	1,6	15	18	●	●	○	●	○		■		■	
S103-06.R200-E62-15.100R/L		6,2	6	2,95	4	1,0	2	15	18	●	●	○	●	○		■		■	

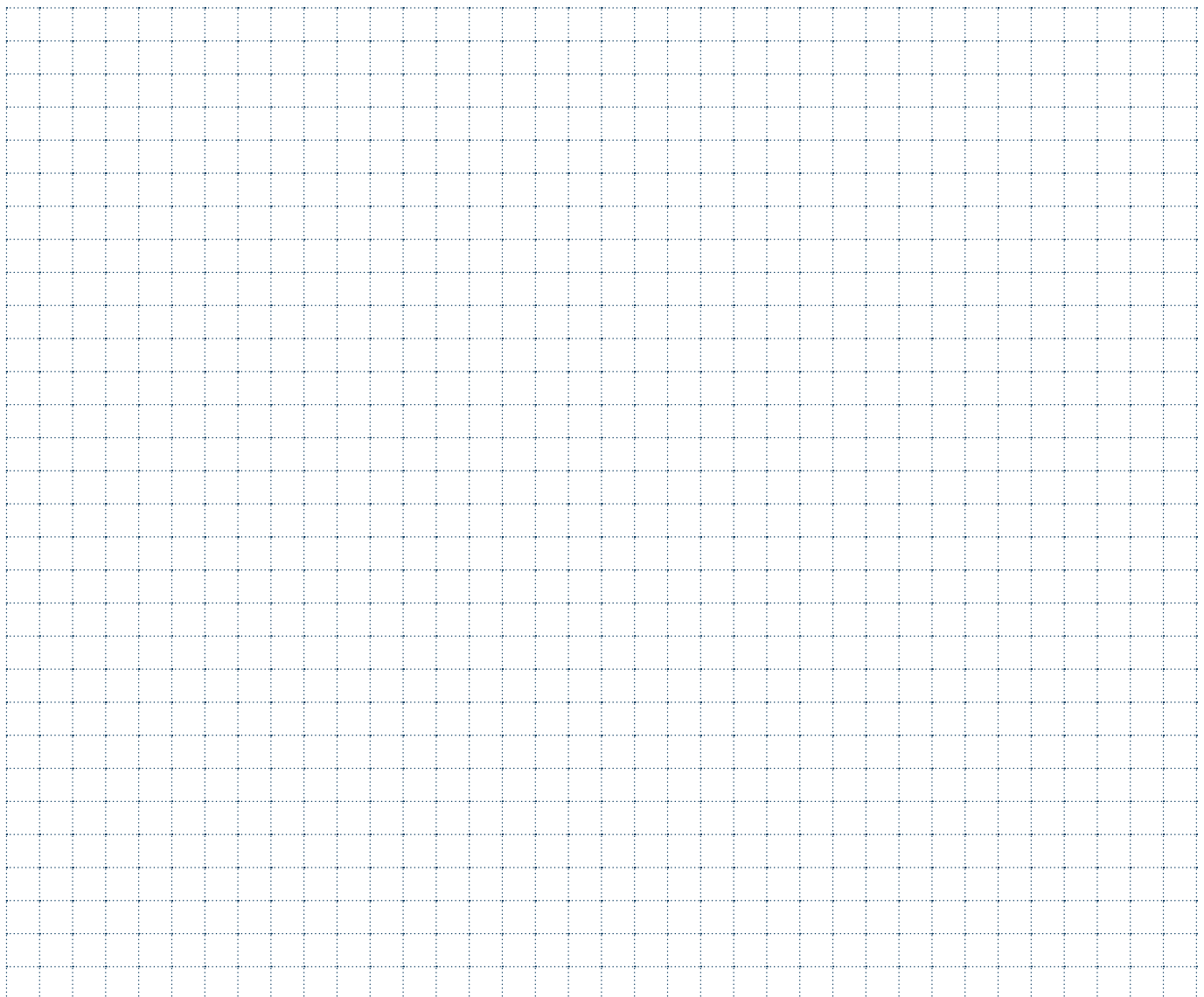
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
			N3635	F7835		
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160		0,01-0,05
	6-9	180-350		80-110		0,01-0,05
	10-11	200-325		60-100		0,01-0,05
	12-13	200-240		50-100		0,01-0,05
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80		0,01-0,05
	15-16	180-260	30-90	30-150		0,01-0,05
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130		0,01-0,05
	19-20	130-230	30-90	30-100		0,01-0,05
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150			0,01-0,05
	26-28	90-110	50-110			0,01-0,05
	29-30	/	20-80			0,01-0,05
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80		0,01-0,05
	36-37	400-1050 ¹⁾		30-80		0,01-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

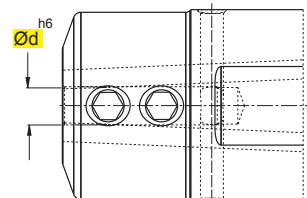
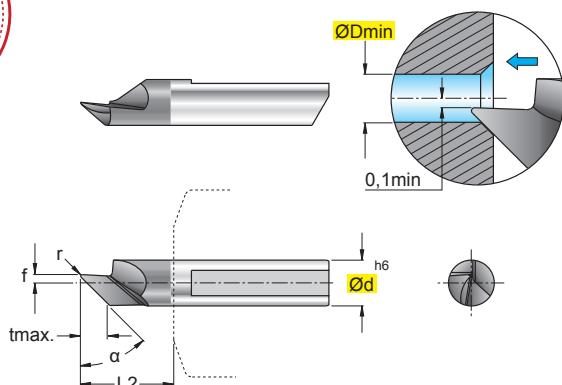
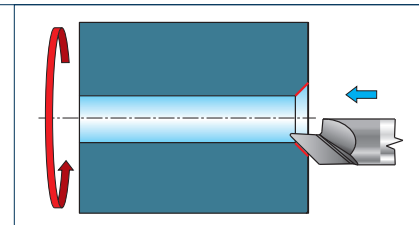
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S101-06...-...020R/L

Smussatura - Chamfering
30° - 45° - 60°



art. S100-TS-06..

In figura utensile destro - Right-hand shown

ART.	(mm)								P	M	K	N	S	H	HW		HC	
	 	ØDmin	Ød	f	r	α	tmax	L2							NON RIV.	RIVESTITI		
															CEMENTED	COATED GRADES		
S101-06.0030-017-22.020R/L New		1	6	1,7	0,2	30	2,2	13	●	●	○	●	○		■		■	
S101-06.0045-011-35.020R/L		1	6	1,1	0,2	45	3,5	13	●	●	○	●	○		■		■	
S101-06.0060-005-40.020R/L		1	6	0,5	0,2	60	4,0	13	●	●	○	●	○		■		■	

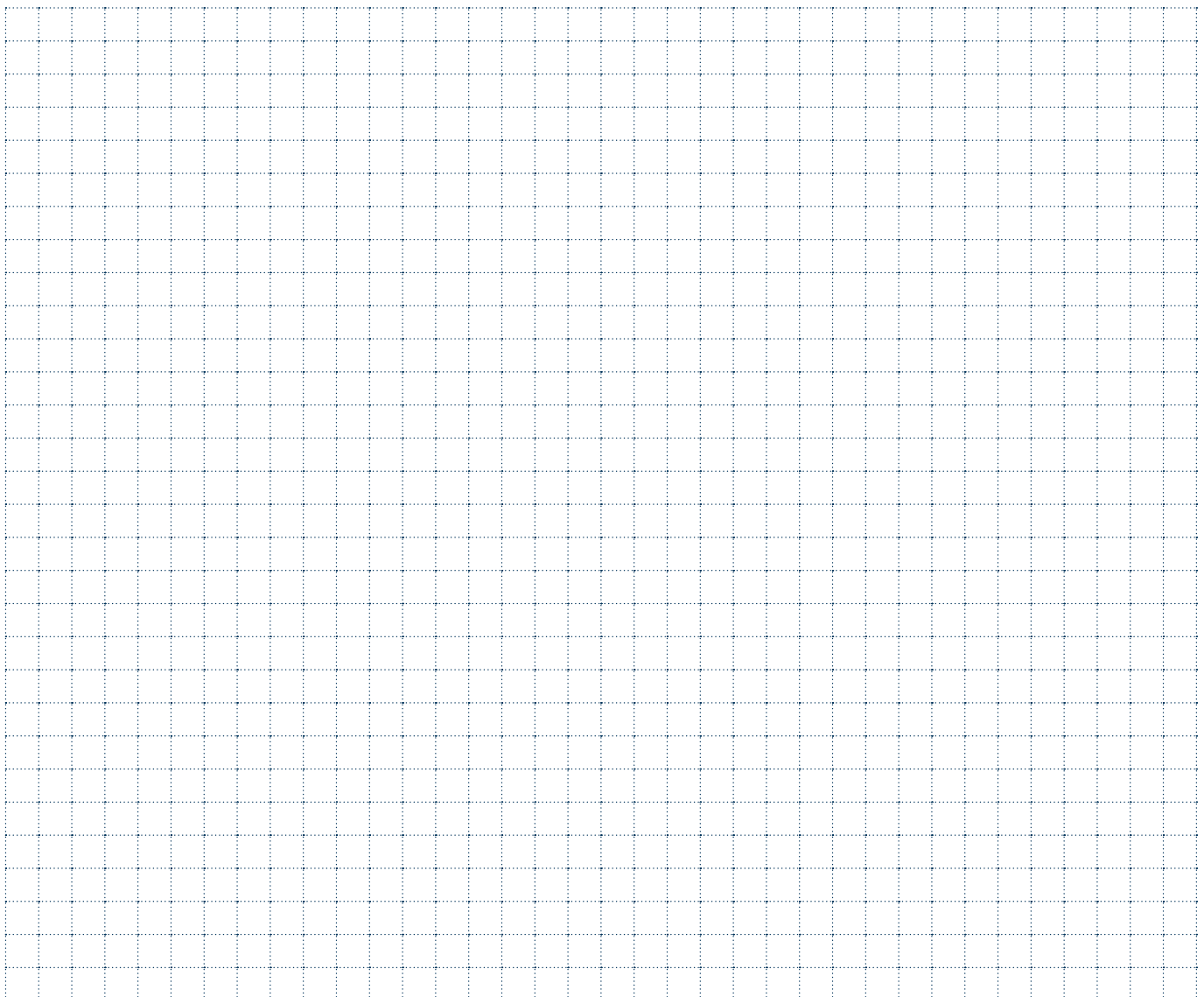
MATERIALI - MATERIALS	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min				fn mm
			N3635	F7835			
P ACCIAIO NON LEGATO - NOT ALLOY STEEL ACCIAIO POCO LEGATO - LOW ALLOY STEEL ACCIAIO ALTO LEGATO - ALLOY STEEL INOX MARTENS. - STAINLESS STEEL MART	1-5	125-300		80-160			0,01-0,05
	6-9	180-350		80-110			0,01-0,05
	10-11	200-325		60-100			0,01-0,05
	12-13	200-240		50-100			0,01-0,05
M INOX AUST. DUPLEX - STAINLESS STEEL AUST GHISA GRIGIA - GREY CAST IRON	14.1-14.2	180-230		20-80			0,01-0,05
	15-16	180-260	30-90	30-150			0,01-0,05
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE GHISA MALLEABILE - MALLEABLE CAST IRON	17-18	160-250	25-80	30-130			0,01-0,05
	19-20	130-230	30-90	30-100			0,01-0,05
N ALLUMINIO E SUE LEGHE - ALUMINIUM RAME E SUE LEGHE - COPPER NON METALLICI - PLASTICS	21-25	60-130	80-150				0,01-0,05
	26-28	90-110	50-110				0,01-0,05
	29-30	/	20-80				0,01-0,05
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY TITANIO E SUE LEGHE - TITANIUM	31-35	200-320		30-80			0,01-0,05
	36-37	400-1050 ¹⁾		30-80			0,01-0,05
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾					

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

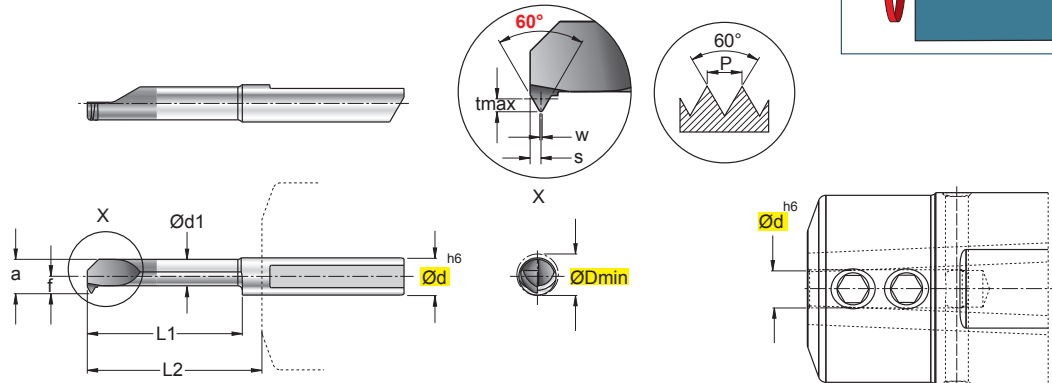
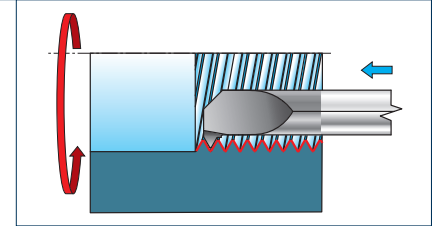
- Vc** = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S104-...0060-...R/L

Filettatura ISO Profilo Parziale
ISO Threading, Partial Profile



art. S100-TS-..

In figura utensile destro - Right-hand shown

ART.	(mm)												P	M	K	N	S	H	HW		HC	
	ØDmin	Ød	P _(min)	P _(max)	Ød1	f	a	tmax	s	w	L1	L2							NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS		
S104-04.0060-042-15.050R	4,2	4	0,50	0,70	2,95	1,95	3,95	0,4	0,35	0,06	15	18	●	●	○	●	■	■				
S104-05.0060-048-15.100R/L	4,8	5	1,00	1,25	3,55	2,25	4,55	0,7	0,55	0,12	15	18	●	●	○	●	■		■			
S104-05.0060-048-20.100R/L	4,8	5	1,00	1,25	3,55	2,25	4,55	0,7	0,55	0,12	20	23	●	●	○	●	■		■			
S104-06.0060-062-15.125R	6,2	6	1,25	1,50	3,95	2,95	5,95	0,84	0,75	0,16	15	18	●	●	○	●	■		■			
S104-06.0060-062-25.125R	6,2	6	1,25	1,50	3,95	2,95	5,95	0,84	0,75	0,16	25	28	●	●	○	●	■		■			
S104-06.0060-062-15.150R	6,2	6	1,50	1,75	3,95	2,95	5,95	0,98	0,80	0,18	15	18	●	●	○	●	■		■			
S104-06.0060-062-25.150R	6,2	6	1,50	1,75	3,95	2,95	5,95	0,98	0,80	0,18	25	28	●	●	○	●	■		■			

MATERIALI - MATERIALS		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			
	NON METALLICI - PLASTICS	29-30	/	20-80			
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$Vf = fn \cdot n = \text{mm/min}$$

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
 n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
 fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
 Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

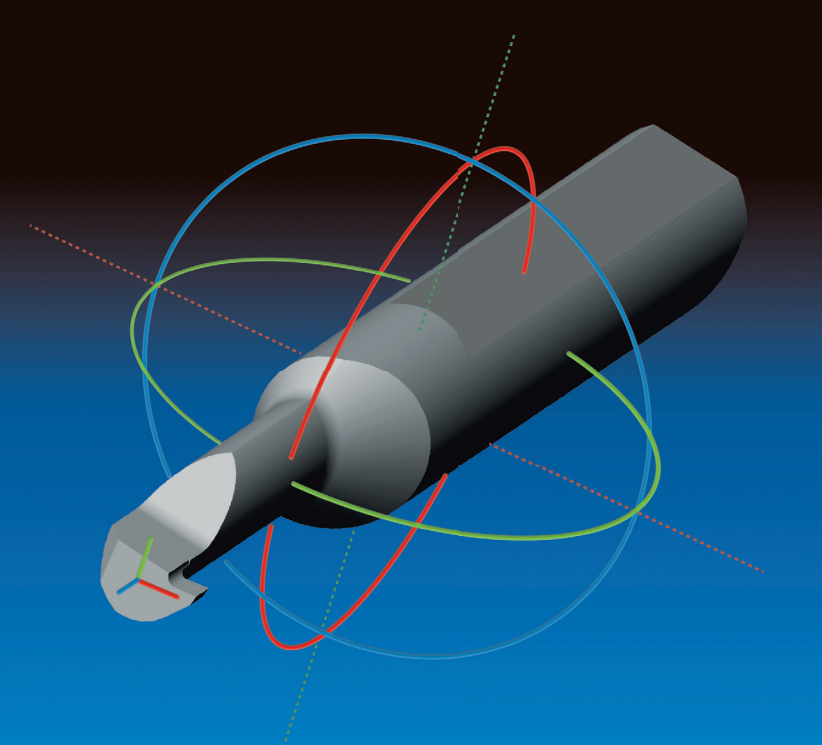
PASSO - PITCH		NUMERO DI PASSATE - NUMBER OF PASSES								
		P (Resistenza alla trazione N/mm ²) - (Tensile strenght N/mm ²)					M	K	N	S
mm	Gg/TPI	400-500	500-700	700-850	850-1150	>1150				
0,5	48	5	5	5	5	8	8	5	8	5
0,8	32	6	6	6	6	8	8	6	8	6
1	24	7	7	7	7	8	8	7	8	7
1,25	20-19	8	8	8	8	10	10	8	10	8
1,5	16	10	10	10	10	12	12	10	12	10
1,75	14	12	12	12	12	14	14	12	14	12
2	12-11	13	13	13	13	15	15	13	15	13
2,5	10	15	15	16	16	18	18	16	18	15
3,0-3,5	8	16	16	17	17	20	20	17	20	16

IL NUMERO DI PASSATE E' UN VALORE DA CONSIDERARE PURAMENTE INDICATIVO
 THE NUMBER OF PASSES IS TO BE CONSIDERED PURELY INDICATIVE

LE PASSATE DI FINITURA NON SONO CONSIDERATE IN TABELLA
 THE FINISHING PASSES ARE NOT INCLUDED IN THE CHART

NOTE - NOTES

<div style="border: 1px dashed black; width: 100%; height: 100%;"></div>
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Panoramica qualità - General view - Qualitätsübersicht - Vue d'ensemble qualité

DIN ISO 513	P ACCIAI STEELS STAHL ACIERS					M ACCIAI INOSSIDABILI STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE				K GHISE CAST IRON GRAUGUSS FONTE GRISE					N NON FERROSI NONFERROUS NICHTEISENMA PAS FERREUX				S MAT.DIFFICILI DIFFICULT MATERIAL SCHWIERIGE MATERIEN MAT.DIFFICILES					H MATERIALI DURI HARD MATERIALS HARTE MATERIEN MATERIAUX DURS				
	01	10	20	30	40	50	10	20	30	40	01	10	20	30	40	10	20	30	40	01	10	20	30	40	10	20	30	40
HW																												
HC																												
TENACITÀ - TOUGHNESS - ZÄHIGKEIT - TÉNACITÉ																												
RESISTENZA ALL'USURA - RESISTANCE TO WEAR - VERSCHLEISSFESTIGKEIT - RÉSISTANCE À L'USURE																												
AVANZAMENTO - FEED - VORSCHUB - AVANCE																												
VELOCITÀ - SPEED - GESCHWINDIGKEIT - VITESSE																												
HT CERMET										HW METALLO DURO NON RICOPERTO UNCOATED CARBIDE UNBESCHICHTETES HARTMETALL MÉTAL DUR PAS RECOUVERT										HC METALLO DURO RICOPERTO COATED CARBIDE BESCHICHTETES HARTMETALL MÉTAL DUR RECOUVERT								

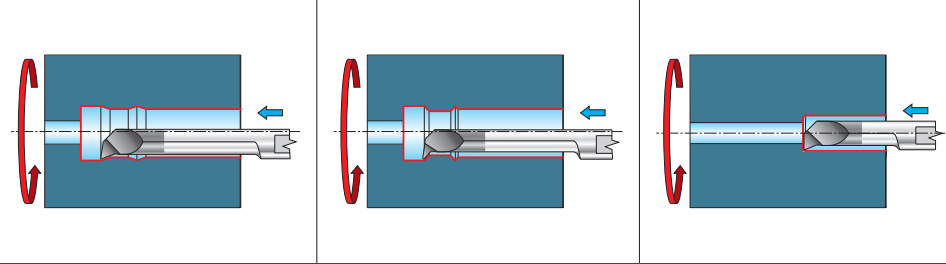
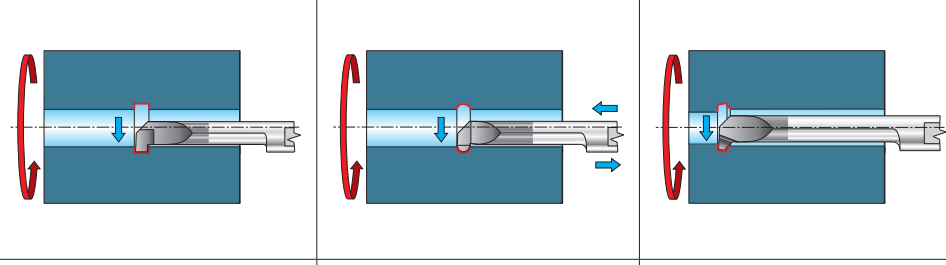
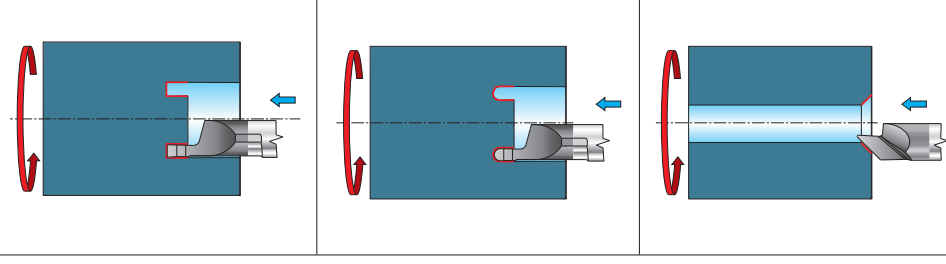
Impiego delle qualità - Application of the grade - Einsatz der verschiedenen sorten - Utilisation de les qualités

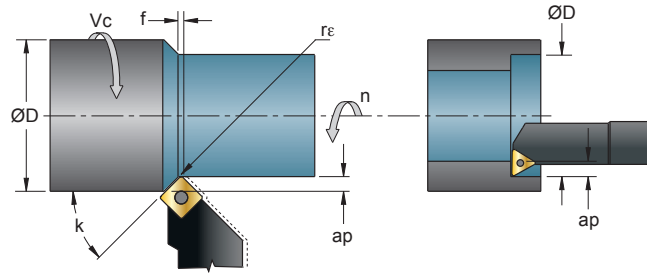
SHG	DIN ISO 513	MATERIALE - MATERIAL MATERIALIEN - MATÉRIAUX						QUICK PICK	INDICAZIONI - USO
		P ACCIAI STEELS STAHL ACIER	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	K GHISA CAST IRON GRAUGUSS FONTE GRISE	N MAT.NON FERROSI NONFERROUS MAT. NICHTEISENMATERIALIEN MAT.FERREUX	S MAT.DIFFICILI DIFFICULT MATERIAL SCHWIERIGE MATERIEN MAT.DIFFICILES	H MATERIALI DURI HARD MATERIALS HARTE MATERIEN MATERIAUX DURS		
N3635	HW K30-40 N30-40			○	●			<ul style="list-style-type: none"> - QUALITÀ ADATTA PER MATERIALI NON FERROSI - METALLO DURO DI ALTA TENACITÀ, IDEALE ANCHE IN CONDIZIONI DI TAGLIO DIFFICILI - GRADE SUITABLE FOR NON-FERROUS MATERIALS - VERY TOUGH HARD METAL, IDEALLY SUITED ALSO UNDER DIFFICULT CUTTING CONDITIONS - SORTE FÜR NICHTEISENMATERIALIEN - HARTMETALL MIT HOHER ZÄHIGKEIT, AUCH UNTER SCHWEREN SCHNITTBEDINGUNGEN BESTENS GEEIGNET - QUALITE INDIQUEE POUR DES MATERIAUX NON FERREUX. - METAL DUR D'UNE HAUTE TENACITE, IDEAL MEME DANS DES CONDITIONS DE COUPE DIFFICILES 	
F7835	HC P30-40 M30-40 K30-40 PVD S30-40 H30-40	●	●	●	○		<ul style="list-style-type: none"> - BUONA RESISTENZA ALL'USURA - ELEVATA STABILITÀ ALLO SHOCK TERMICO - MOLTO TENACE, ADATTO ANCHE IN CONDIZIONI DI TAGLIO DIFFICILI - GOOD RESISTANCE TO WEAR - HIGH THERMAL SHOCK RESISTANCE - VERY TOUGH, ALSO SUITABLE UNDER DIFFICULT CUTTING CONDITIONS - GUTE VERSCHLEISSFESTIGKEIT - HOHE TEMPERATURWECHSELBESTÄNDIGKEIT - SEHR ZÄH, AUCH UNTER SCHWEREN SCHNITTBEDINGUNGEN GEEIGNET - BONNE RESISTANCE A L'USURE - STABILITE ELEVÉE AU CHOC THERMIQUE - TRES TENACE, INDIQUE MEME DANS DES CONDITIONS DE COUPE DIFFICILES 		

- APPLICAZIONE CONSIGLIATA RECOMMENDED APPLICATION EMPFOHLENER EINSATZ APPLICATION CONSEILLÉE
- APPLICAZIONE POSSIBILE POSSIBLE APPLICATION MÖGLICHE ANWENDUNG APPLICATION POSSIBLE
- APPLICAZIONE CONSIGLIATA RECOMMENDED APPLICATION EMPFOHLENER EINSATZ APPLICATION CONSEILLÉE
- APPLICAZIONE POSSIBILE POSSIBLE APPLICATION MÖGLICHE ANWENDUNG APPLICATION POSSIBLE

**PARAMETRI DI TAGLIO - CUTTING DATA
SCHNITTPARAMETER - PARAMETRES DE COUPE**

MATERIALI - MATERIALS		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min		
				N3635	F7835	
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160	
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110	
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100	
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100	
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80	
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150	
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130	
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100	
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150		
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110		
	NON METALLICI - PLASTICS	29-30	/	20-80		
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80	
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80	
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾			

LAVORAZIONI MACHINING			AVANZAMENTO f (mm/giro) FEED f (mm/rev.)
COPIATURA COPY			0,02 - 0,08
SCANALATURA GROOVING			0,01 - 0,03
SCANALATURA FRONTALE FACE GROOVING			0,01 - 0,05



			
ap (mm)	= PROFONDITÀ DI TAGLIO		= CUTTING DEPTH
d (mm)	= DIAMETRO DEL PEZZO		= WORKPIECE DIAMETER
fn (mm)	= AVANZAMENTO AL GIRO		= FEED / REV.
h (mm)	= SPESSORE DEL TRUCIOLO		= CHIP THICKNESS
k (°)	= ANGOLO DI ATTACCO		= CUTTING ANGLE
Kc (N/mm ²)	= FORZA DI TAGLIO SPECIFICA		= SPECIFIC CUTTING FORCE
Kc1.1 (N/mm ²)	= FORZA DI STRAPPAMENTO SPECIFICA DEL MATERIALE LAVORATO		= SPECIFIC TEARING FORCE OF MACHINED MATERIAL
mc	= ESPONENTE DI INCREMENTO DELLA FORZA DI TAGLIO		= CUTTING FORCE INCREMENT
n (giri/min - min ⁻¹)	= NUMERO DI GIRI AL MINUTO		= NUMBER OF REVOLUTIONS / MIN'
Pc (KW)	= POTENZA ASSORBITA		= ABSORBED POWER
Q (cm ³ /min)	= VOLUME DEL TRUCIOLO ASPORTATO		= VOLUME OF CHIP REMOVED
rε (mm)	= RAGGIO DI PUNTA DELL' INSERTO		= INSERT CORNER RADIUS
Vc (m/min)	= VELOCITÀ DI TAGLIO		= CUTTING SPEED
η (0,7-0,85)	= RENDIMENTO MECCANICO DELLA MACCHINA		= MECHANICAL EFFICIENCY OF THE MACHINE

$$Vc \text{ (m/min)} = \frac{D \cdot 3,14 \cdot n}{1000}$$

$$n \text{ (giri/min - min}^{-1}\text{)} = \frac{Vc \cdot 1000}{D \cdot 3,14}$$

$$h \text{ (mm)} = fn \cdot \sin k$$

$$Kc \text{ (N/mm}^2\text{)} \approx \frac{Kc1.1}{h^{mc}}$$

- APPROSSIMATA: NON TIENE CONTO DELL'ANGOLO DI TAGLIO
- APPROXIMATE VALUE: CUTTING ANGLE NOT TAKEN INTO CONSIDERATION

$$Pc \text{ (KW)} = \frac{Vc \cdot fn \cdot ap \cdot Kc}{60.000 \cdot \eta}$$

$$Q \text{ (cm}^3\text{/min)} = Vc \cdot fn \cdot ap$$



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