

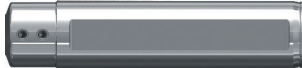
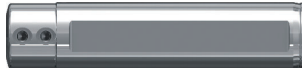

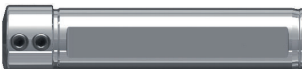





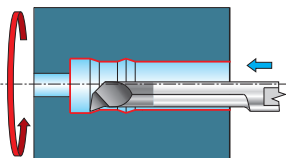




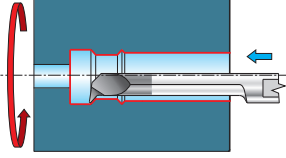



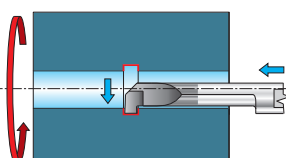




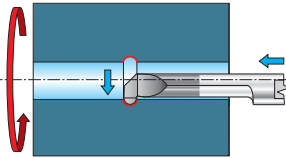


NEWS 220/1

MINITOOL



QUALITY TOOLS ENGINEERING

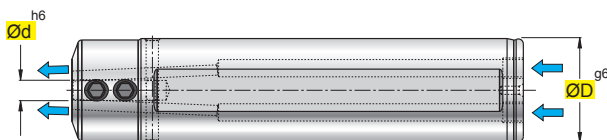
		ART.	Ød	ØD	Pag.
					
PORTAUTENSILI - TOOL HOLDER					
		S100-TS-04-...	4	12-25	6
		S100-TS-05-...	5	12-25	7
		S100-TS-06-...	6	12-25	8
		S100-TS-07-...	7	16-25	9

APPLICAZIONE - APPLICATION		ART.	ØD min	Ød	t max	Pag.
						
TORNITURA INTERNA - INTERNAL TURNING						
		S101-04.9820-...015R/L	3,2-4,2	4	0,2-0,3	10
		S101-05.9820-052-...020R/L	5,2	5	0,5	12
		S101-06.9820-062-...020R/L	6,2	6	0,5	14
		S101-07.9820-072-...020R/L	7,2	7	0,5	16
	NEW 	S101-04.9847-...-...R/L	3,2-4,2	4	0,6-0,8	18
	NEW 	S101-05.9847-052-...015R/L	5,2	5	1,0	18
	NEW 	S101-06.9847-062-...015R/L	6,2	5	1,8	18
SCANALATURA - GROOVING						
		S102-04...000R/L	3,0-4,2	4	0,6-0,8	20
		S102-05...000R/L	5,0-5,2	5	1,0	22
		S102-06...-062-...000R/L	6,2	6	1,8	24
		S102-07...-072-...000R/L	7,2	7	2,5	26
		S102-05.R...-052-20...R/L	5,2	5	1,0	28
		S102-06.R...-062-25...R/L	6,2	6	1,8	30

APPLICAZIONE - APPLICATION	ART.	ØD min	Ød	t max	Pag.	
SCANALATURA FRONTALE - FACE GROOVING						
		S103-06...-I62-15.015R/L	6,2	6	2-6	32
		S103-06...-E62-15.015R/L	6,2	6	2-6	34
		S103-06.R...-I62-15...R/L	6,2	6	2-4	36
		S103-06.R...-E62-15...R/L	6,2	6	2-4	38
SMUSSATURA - CHAMFERING						
		S101-06.00...-...020R/L	1	6	3,5-4,0	40
FILETTATURA (ISO PROFILO PARZIALE) - THREADING (ISO PARTIAL PROFILE)						
		S104-04.0060-042-15.050R	4,2	4	0,4	42
		S104-05.0060-048-...100R	4,8	5	0,7	42
		S104-06.0060-062-...R	6,2	6	0,84 0,98	42

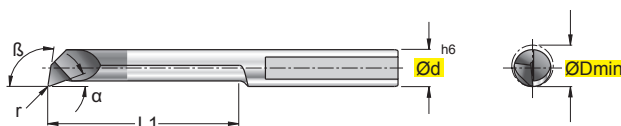
DATI TECNICI - TECHNICAL DATA





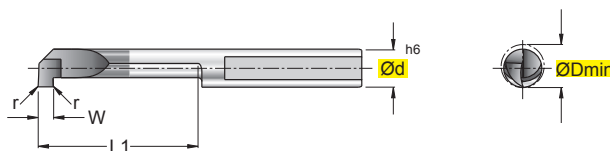
S	1	0	0	-	T	S	-	0	4	.	0	0	1	6
1							2			3				

- | | | | | | |
|----------|---|----------|---|----------|--|
| 1 | COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE | 2 | $\varnothing d$ DIAMETRO ATTACCO "MINITool"
$\varnothing d$ "MINITool" ATTACHMENT DIAMETER | 3 | $\varnothing D$ DIAMETRO ATTACCO PORTA UTENSILE
$\varnothing D$ TOOL-HOLDER ATTACHMENT DIAMETER |
|----------|---|----------|---|----------|--|



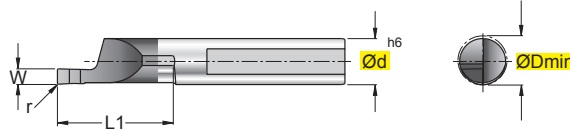
S	1	0	1	-	0	4	.	9	8	2	0	-	0	3	7	-	2	0	.	0	1	5	R
1		2		3		4		5		6		7		8									

- | | | | | | |
|----------|--|----------|--|----------|---|
| 1 | COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE | 2 | $\varnothing d$ DIAMETRO ATTACCO "MINITool"
$\varnothing d$ "MINITool" ATTACHMENT DIAMETER | 3 | ANGOLO β TESTA
β ANGLE - HEAD |
| 4 | ANGOLO α TESTA
α ANGLE - HEAD | 5 | $\varnothing D_{min}$ DIAMETRO MINIMO DI ENTRATA
$\varnothing D_{min}$ MINIMUM PENETRATION DIAMETER | 6 | L_1 PROFONDITÀ MASSIMA DI LAVORO
L_1 MAXIMUM MACHINING DEPTH |
| 7 | r RAGGIO IN TESTA
r HEAD RADIUS | 8 | R/L DIREZIONE DI TAGLIO
R/L CUTTING DIRECTION | | |



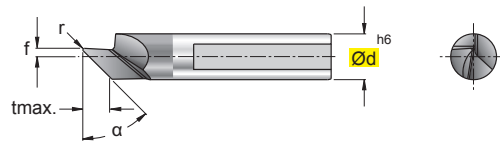
S	1	0	2	-	0	4	.	0	1	0	0	-	0	4	2	-	1	0	.	0	0	0	R
1		2		3		4		5		6		7		8									

- | | | | | | |
|----------|---|----------|--|----------|--|
| 1 | COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE | 2 | $\varnothing d$ DIAMETRO ATTACCO "MINITool"
$\varnothing d$ "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 | $\varnothing D_{min}$ DIAMETRO MINIMO DI ENTRATA
$\varnothing D_{min}$ MINIMUM PENETRATION DIAMETER | 6 | L_1 PROFONDITÀ MASSIMA DI LAVORO
L_1 MAXIMUM MACHINING DEPTH |
| 7 | r RAGGIO IN TESTA
r HEAD RADIUS | 8 | R/L DIREZIONE DI TAGLIO
R/L CUTTING DIRECTION | | |



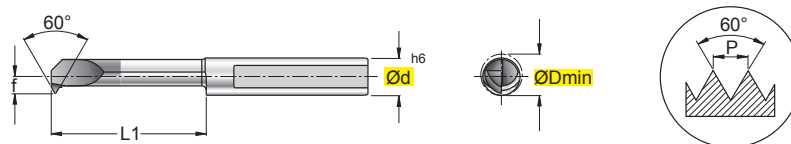
S 1 0 3 - 0 6 . 0 2 0 0 - 1 6 2 - 1 5 . 0 1 5 R
1 2 3 4 5 6 7 8 9

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



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

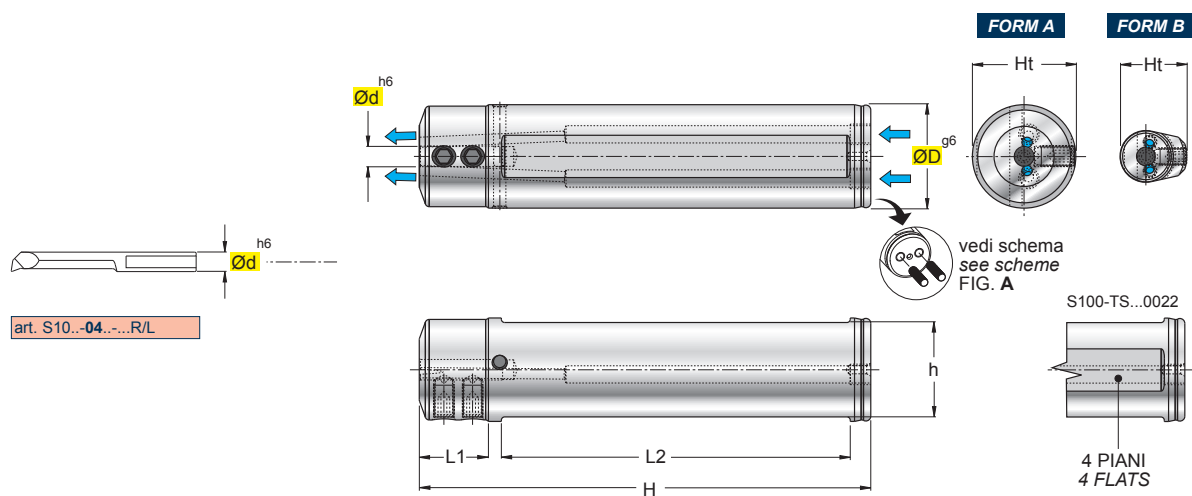
- | | | |
|--|---|--|
| <p>1 COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE</p> <p>4 f DISTANZA OLTRE CENTRO
f OFF-CENTRE DISTANCE</p> <p>7 R/L DIREZIONE DI TAGLIO
R/L CUTTING DIRECTION</p> | <p>2 Ød DIAMETRO ATTACCO "MINITOOL"
Ød "MINITOOL" ATTACHMENT DIAMETER</p> <p>5 tmax MASSIMA PROFONDITÀ DI LAVORO
tmax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



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

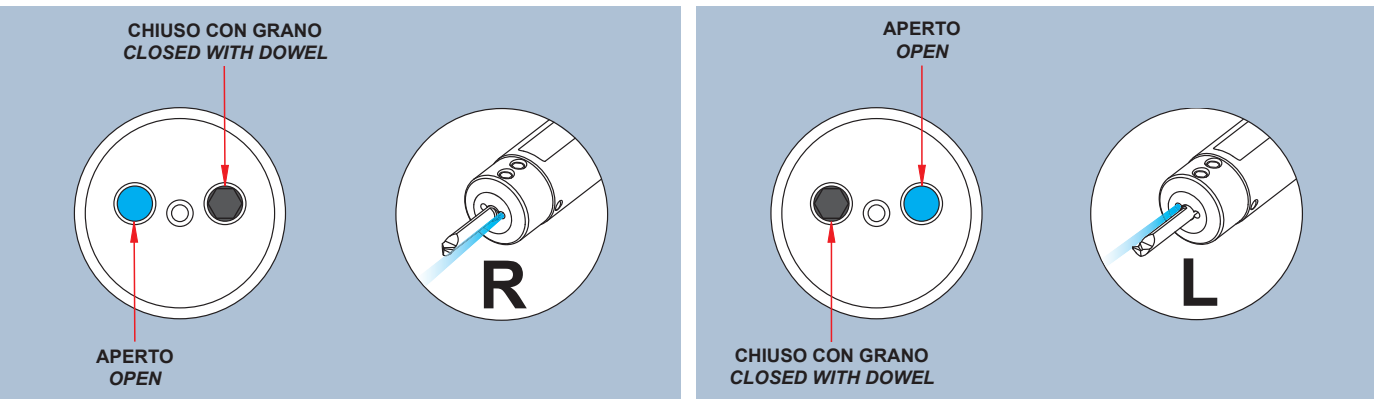
- | | | |
|--|--|--|
| <p>1 COD. TIPOLOGIA ARTICOLO
COD. ITEM TYPE</p> <p>4 ØDmin DIAMETRO MINIMO DI ENTRATA
ØDmin MINIMUM PENETRATION DIAMETER</p> <p>7 R/L DIREZIONE DI TAGLIO
R/L CUTTING DIRECTION</p> | <p>2 Ød DIAMETRO ATTACCO "MINITOOL"
Ød "MINITOOL" ATTACHMENT DIAMETER</p> <p>5 L1 PROFONDITÀ MASSIMA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

S100-TS-04-...

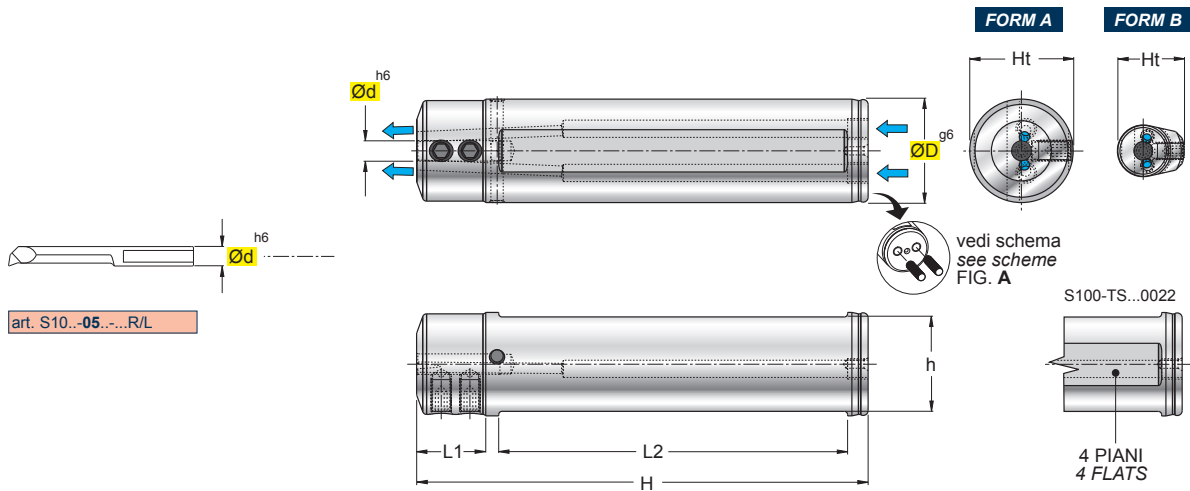


(mm)															
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht							
S100-TS-04.0012	B	12	4	10	14	48	70	15,5	n°2 GR408C	n°1 GR304C	5002				
S100-TS-04.0016	B	16	4	14	14	53	75	17,5	n°2 GR408C	n°1 GR404C	5002				
S100-TS-04.0020	A	20	4	18	15	66	90	19,5	n°2 GR408C	n°1 GR505C	5002				
S100-TS-04.0022	A	22	4	20	15	86	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) KÜHLSCHEMA - (FIG. A) SCHEMA REFRIGATION

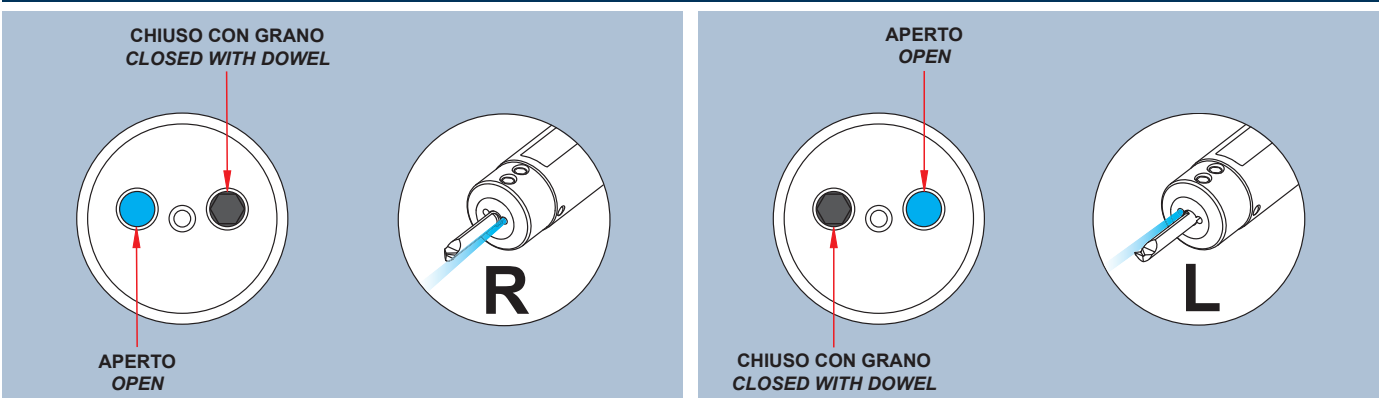


S100-TS-05-...

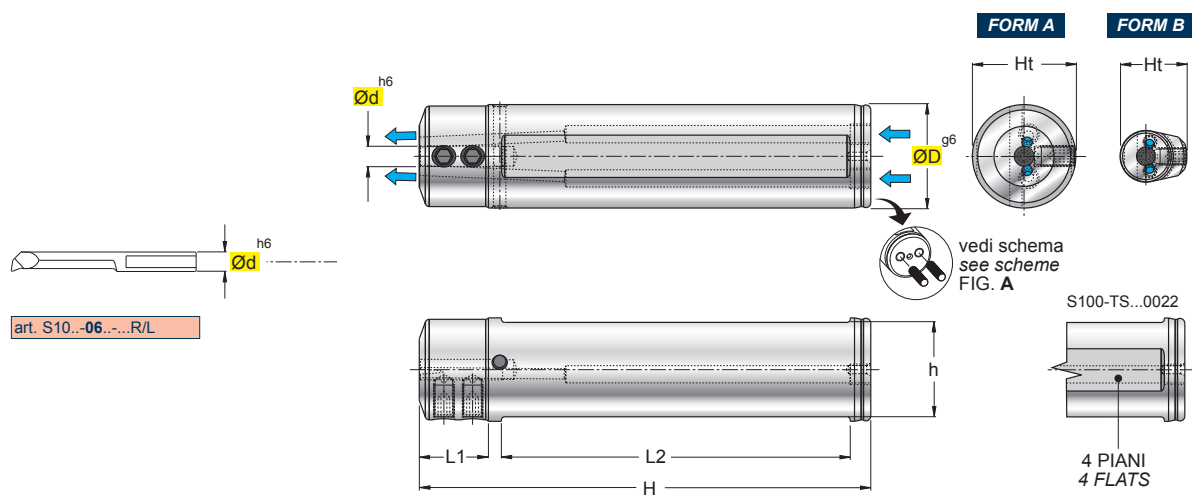


(mm)														
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht						
S100-TS-05.0012	B	12	5	10	15	47	70	16,0	n°2 GR508C	n°1 GR304C	5025			
S100-TS-05.0016	B	16	5	14	15	52	75	18,0	n°2 GR508C	n°1 GR404C	5025			
S100-TS-05.0020	A	20	5	18	15	66	90	19,5	n°2 GR508C	n°1 GR505C	5025			
S100-TS-05.0022	A	22	5	20	15	86	110	21,5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



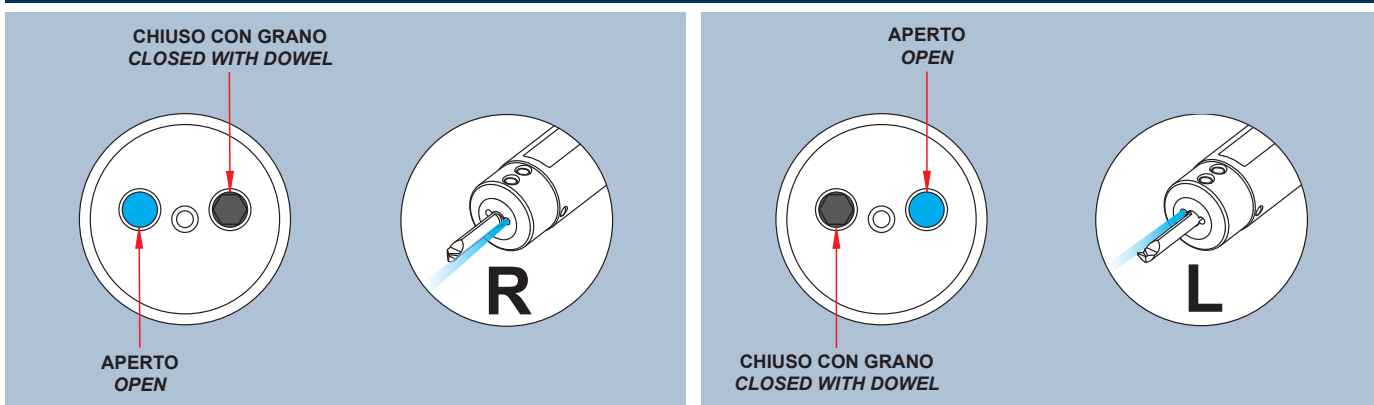
S100-TS-06-...



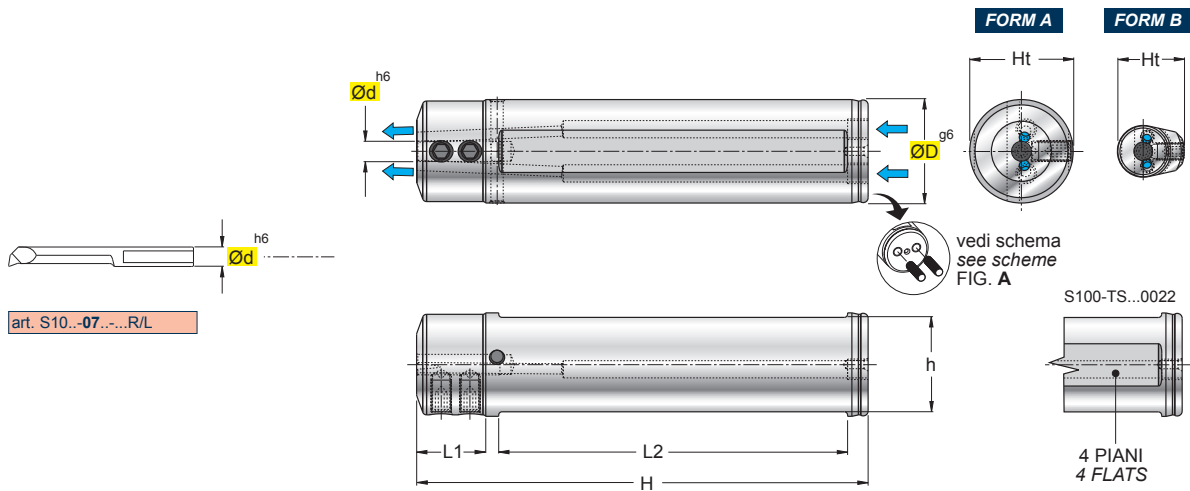
art. S10...-06...-...R/L

(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) KÜHLSCHEMA - (FIG. A) SCHEMA REFRIGERATION



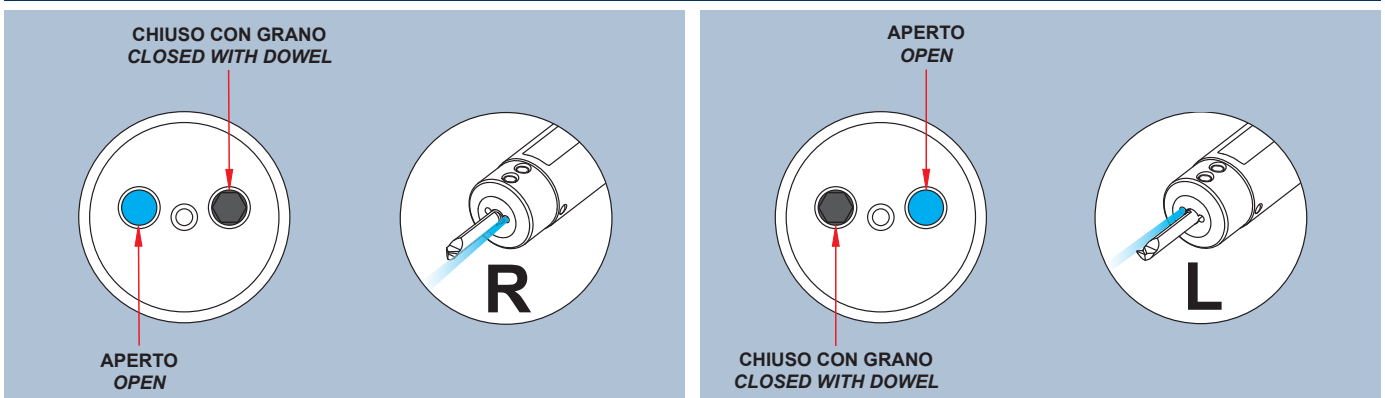
S100-TS-07-...



art. S10...07...R/L

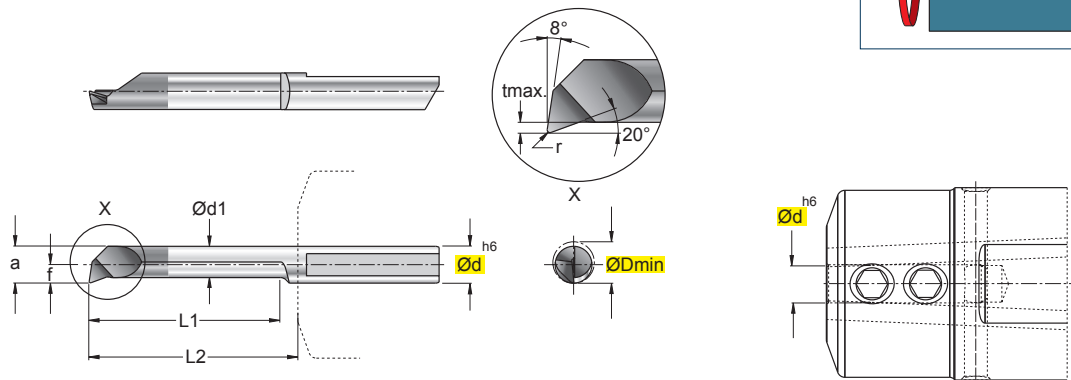
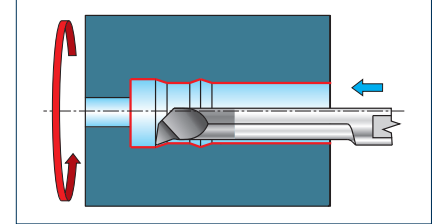
(mm)														
ART.	FORM	ØD	Ød	h	L1	L2	H	Ht						
S100-TS-07.0016	B	16	7	14	15	55	78	19,0	n°2 GR508C	n°1 GR404C	5025			
S100-TS-07.0020	A	20	7	18	15	66	90	22,0	n°2 GR508C	n°1 GR505C	5025			
S100-TS-07.0022	A	22	7	20	15	86	110	21,7	n°2 GR508C	n°1 GR505C	5025			
S100-TS-07.0025	A	25	7	23	15	86	110	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	COATED GRADES		
S101-04.9820-032-10.015R/L		3,2	4	2,55	1,45	2,95	0,2	0,15	10	13	●	●	○	●	○	■		■		
S101-04.9820-032-15.015R/L		3,2	4	2,55	1,45	2,95	0,2	0,15	15	18	●	●	○	●	○	■		■		
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	●	●	○	●	○	■		■		
S101-04.9820-042-10.015R/L		4,2	4	3,45	1,95	3,95	0,3	0,15	10	13	●	●	○	●	○	■		■		
S101-04.9820-042-15.015R/L		4,2	4	3,45	1,95	3,95	0,3	0,15	15	18	●	●	○	●	○	■		■		
S101-04.9820-042-20.015R/L		4,2	4	3,45	1,95	3,95	0,3	0,15	20	23	●	●	○	●	○	■		■		
S101-04.9820-042-25.015R/L		4,2	4	3,45	1,95	3,95	0,3	0,15	25	28	●	●	○	●	○	■		■		

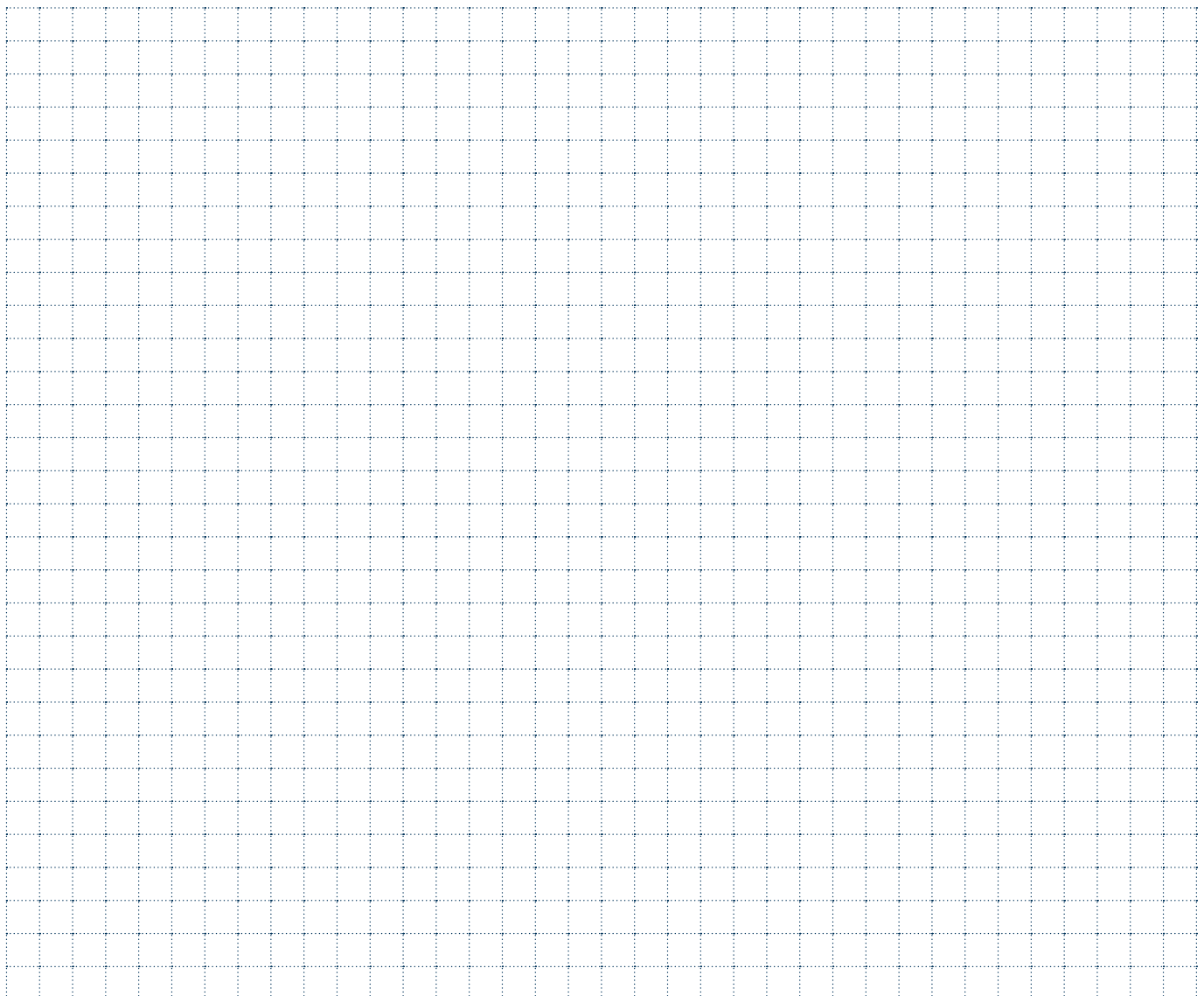
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,02-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,02-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,02-0,08
	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	/	20-80			0,02-0,08
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,02-0,08
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,02-0,08
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

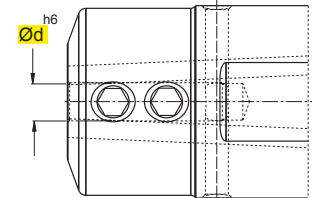
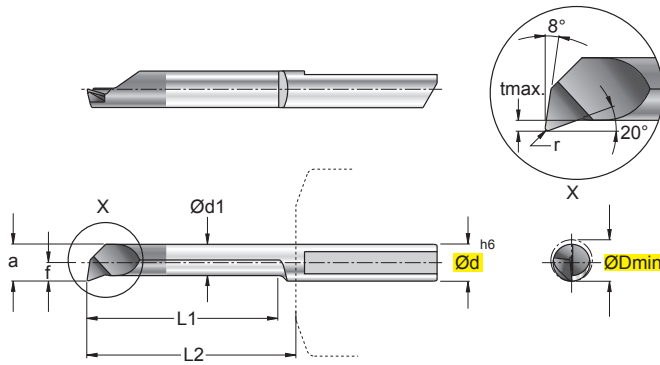
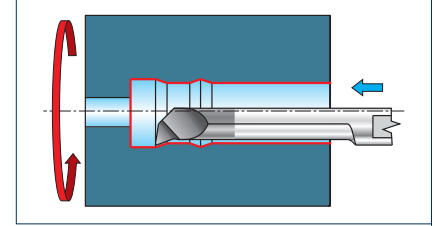
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S101-05.9820-...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. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	N3635	F7835
S101-05.9820-052-10.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	10	13	●	●	○	●	○		■		■	
S101-05.9820-052-15.020R/L		5,2	5	4,25	2,45	4,95	0,5	0,2	15	18	●	●	○	●	○		■		■	
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	●	●	○	●	○		■		■	
S101-05.9820-052-30.020R/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	●	●	○	●	○		■		■	

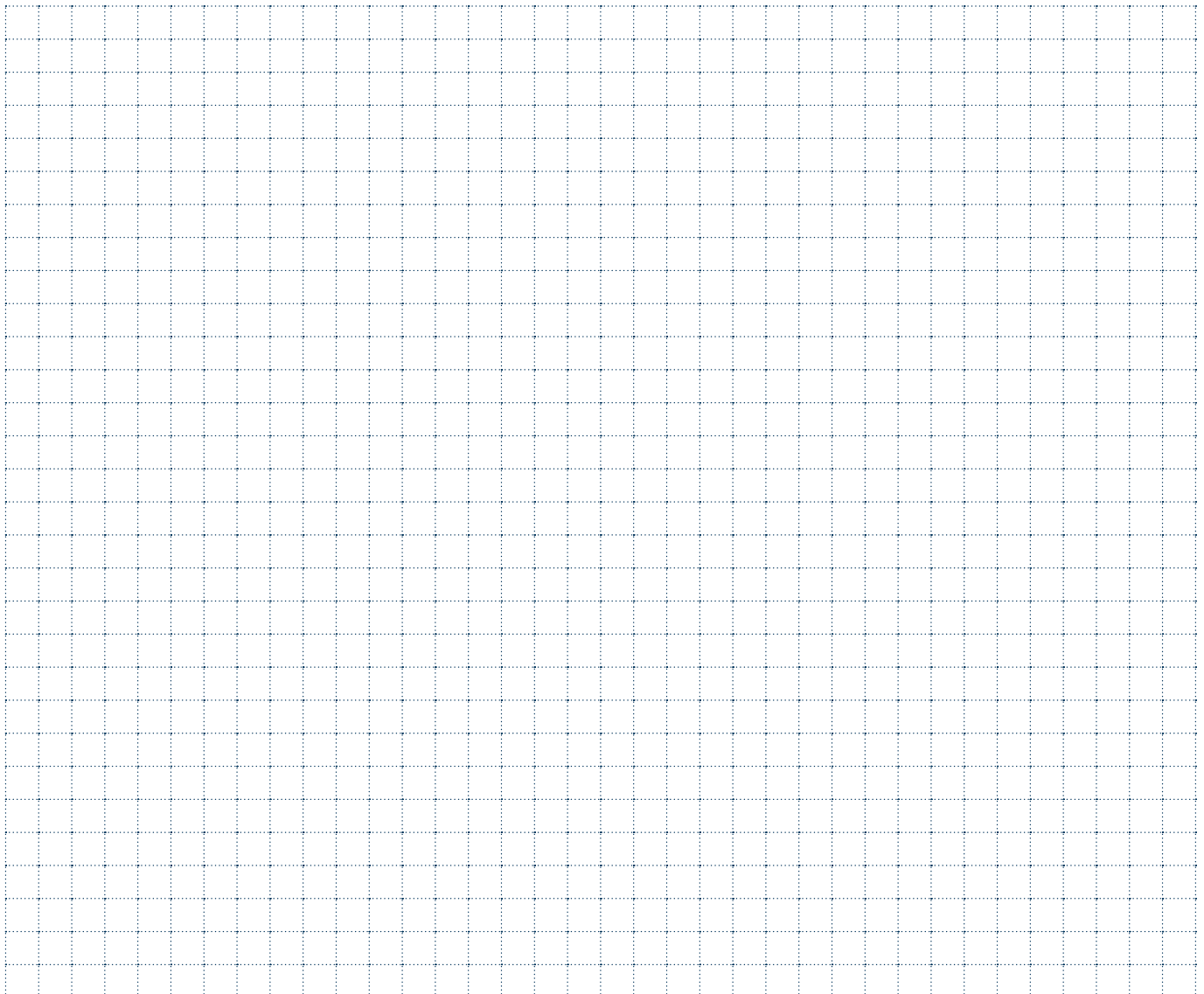
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,02-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,02-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,02-0,08
	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
	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,02-0,08
K	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	/	20-80			0,02-0,08
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,02-0,08
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,02-0,08
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

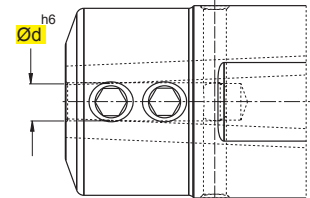
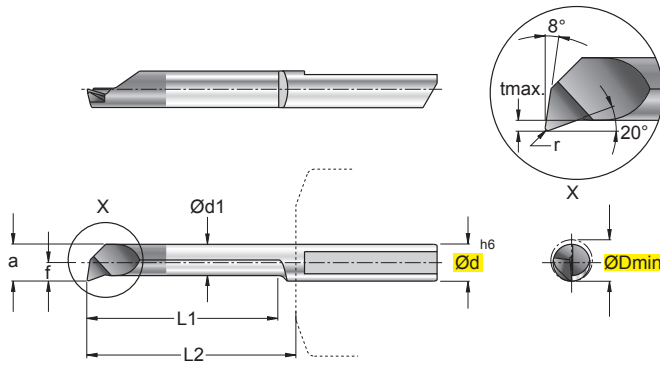
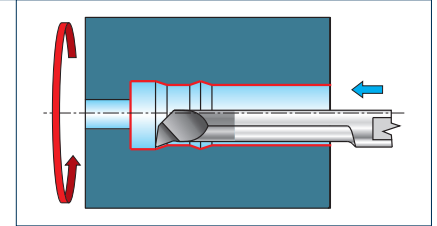
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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.	RIVESTITI		
																	CEMENTED CARBIDE GRADES	COATED GRADES BESCHICHTET RECOUVERTS		
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 Pag. 1065		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		0,02-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,02-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		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	/	20-80			0,02-0,08
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,02-0,08
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,02-0,08
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

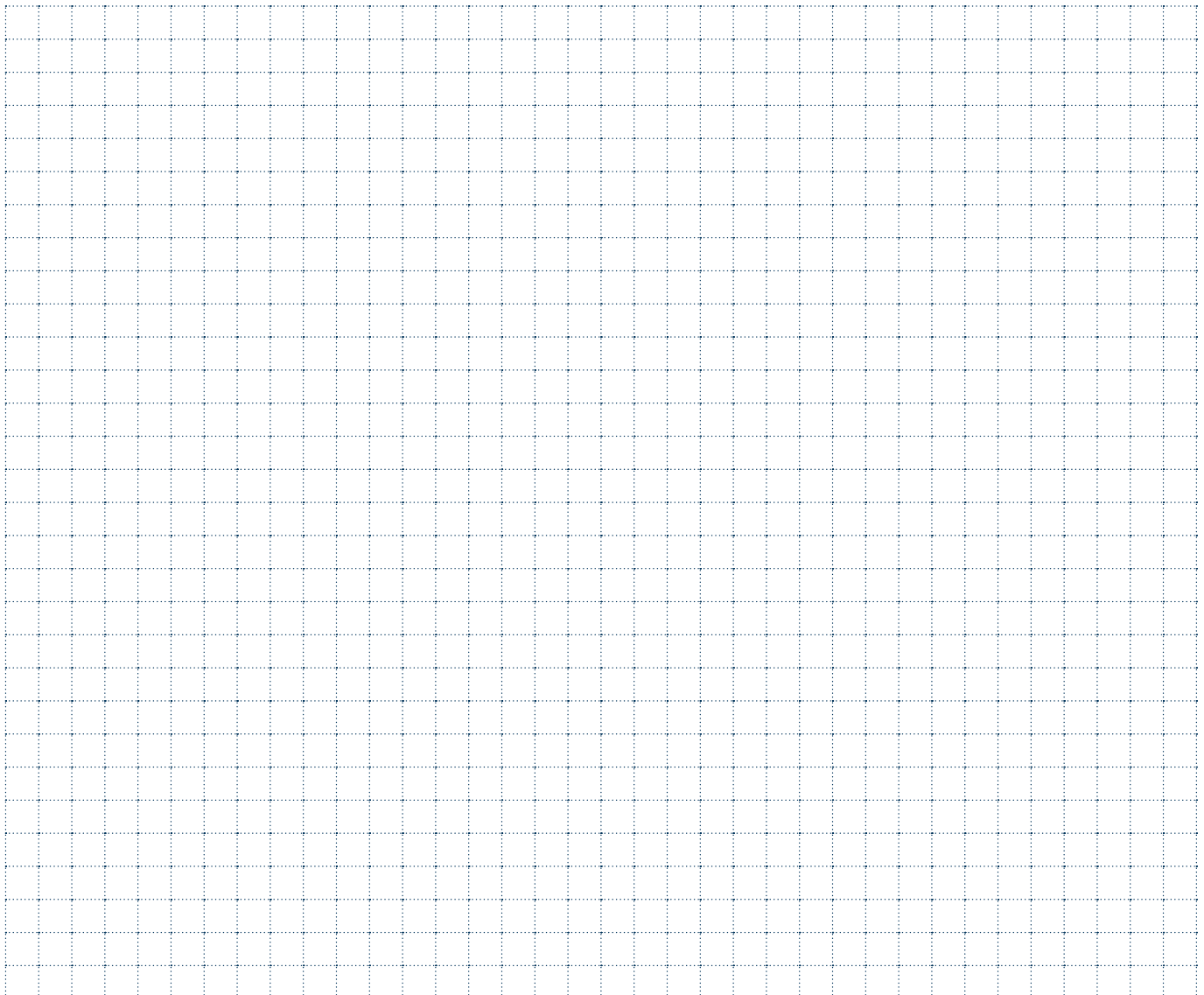
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED

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

fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION

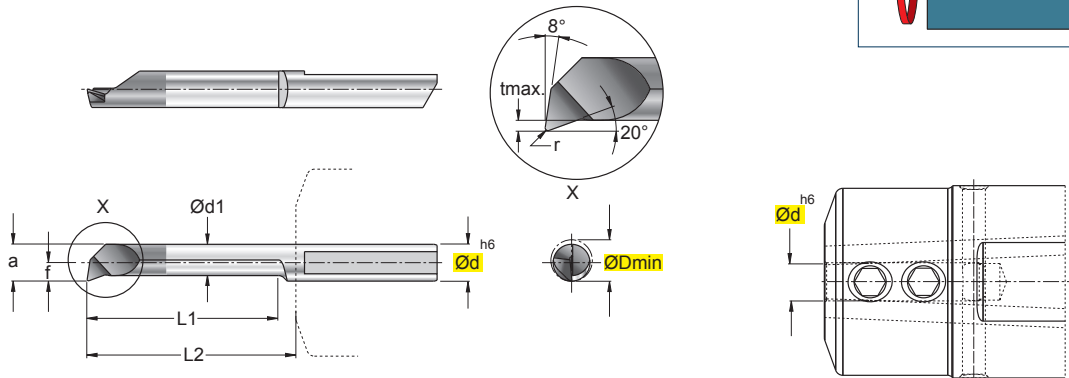
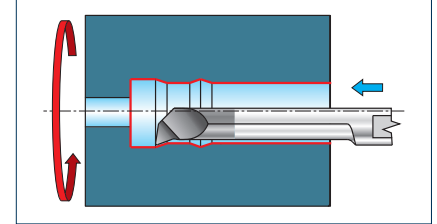
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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	●	●	○	●	○		■		■	
S101-07.9820-072-50.020R/L		7,2	7	6,25	3,45	6,95	0,5	0,2	50	53	●	●	○	●	○		■		■	

MATERIALI - MATERIALS Pag. 1065		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		0,02-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,02-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		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	/	20-80			0,02-0,08
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,02-0,08
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,02-0,08
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

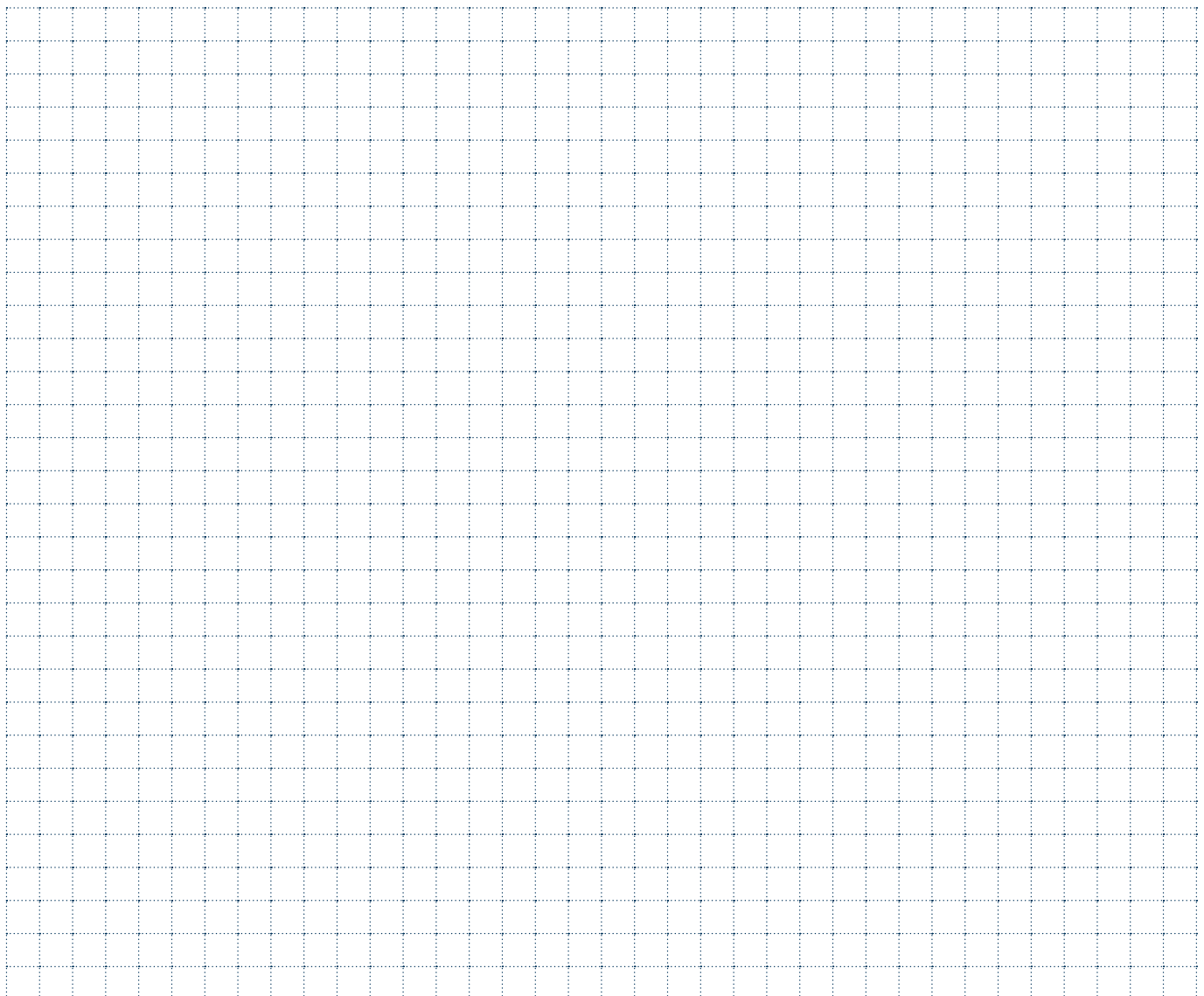
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED

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

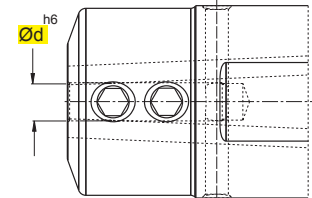
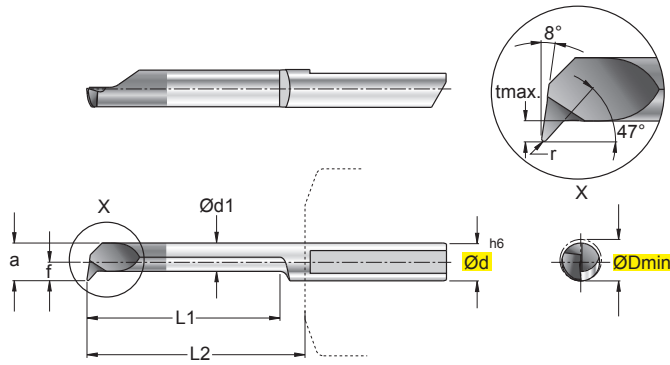
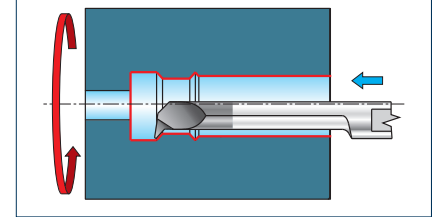
NOTE - NOTES



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

Tornitura Interna - Internal Turning

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	L1	L2							NON RIV.	RIVESTITI		
																	CEMENTED	COATED GRADES		
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	●	●	○	●	○	■			■	

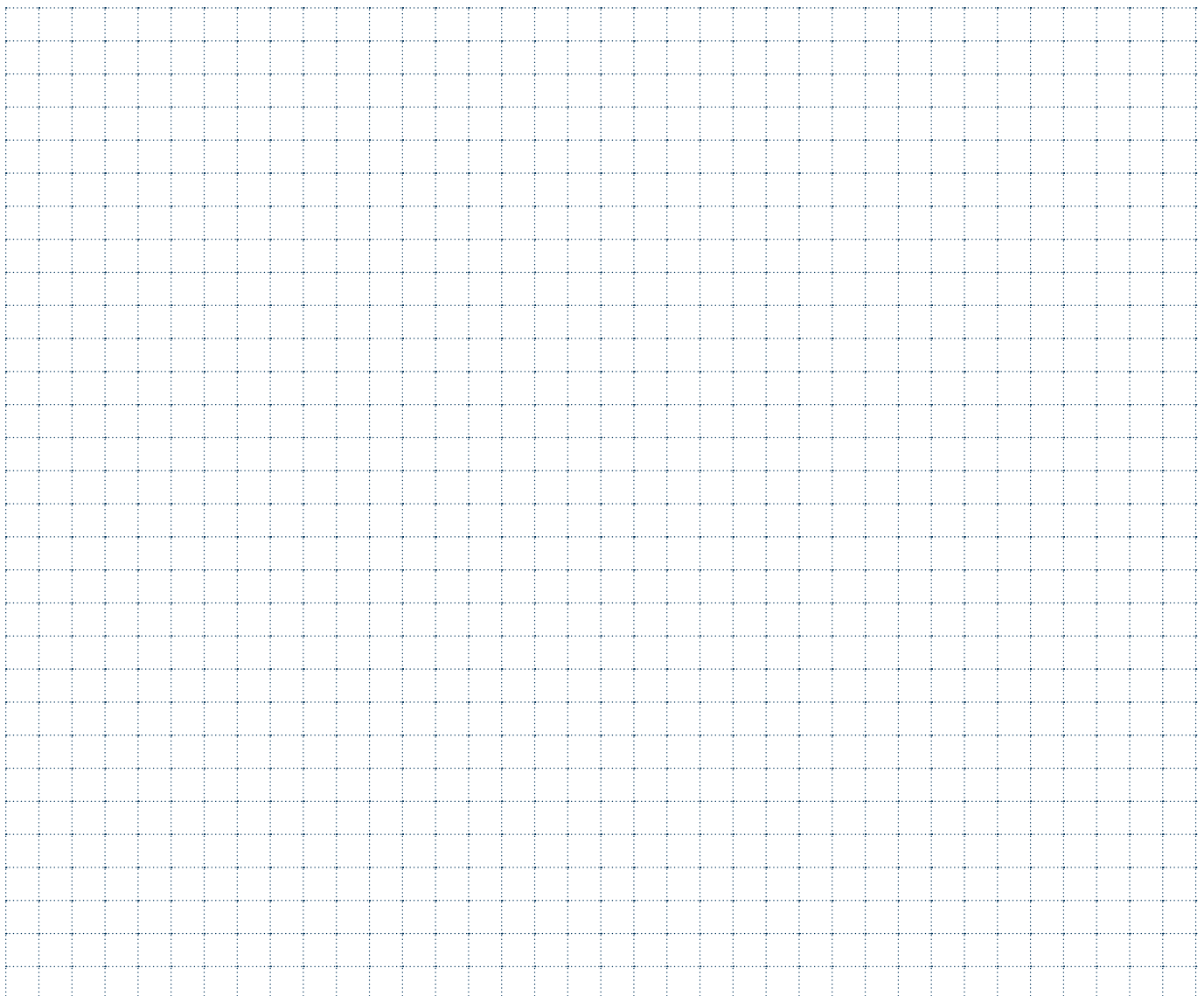
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,02-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,02-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,02-0,08
	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	/	20-80			0,02-0,08
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,02-0,08
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,02-0,08
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

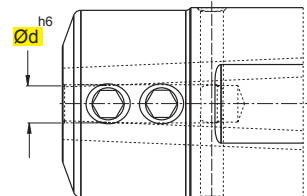
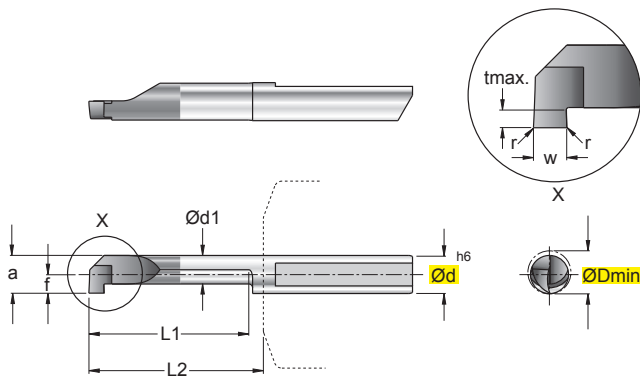
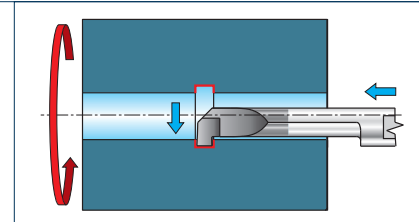
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
 n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
 fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
 Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



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

Scalatura - 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		
S102-04.0070-030-08.000R/L	3,0	4	1,95	1,35	2,75	0,6	-	0,7	8	13	●	●	○	●	○		■		■	
S102-04.0100-042-10.000R/L	4,2	4	2,95	1,95	3,95	0,8	-	1,0	10	13	●	●	○	●	○		■		■	
S102-04.0100-042-20.000R/L	4,2	4	2,95	1,95	3,95	0,8	-	1,0	20	23	●	●	○	●	○		■		■	

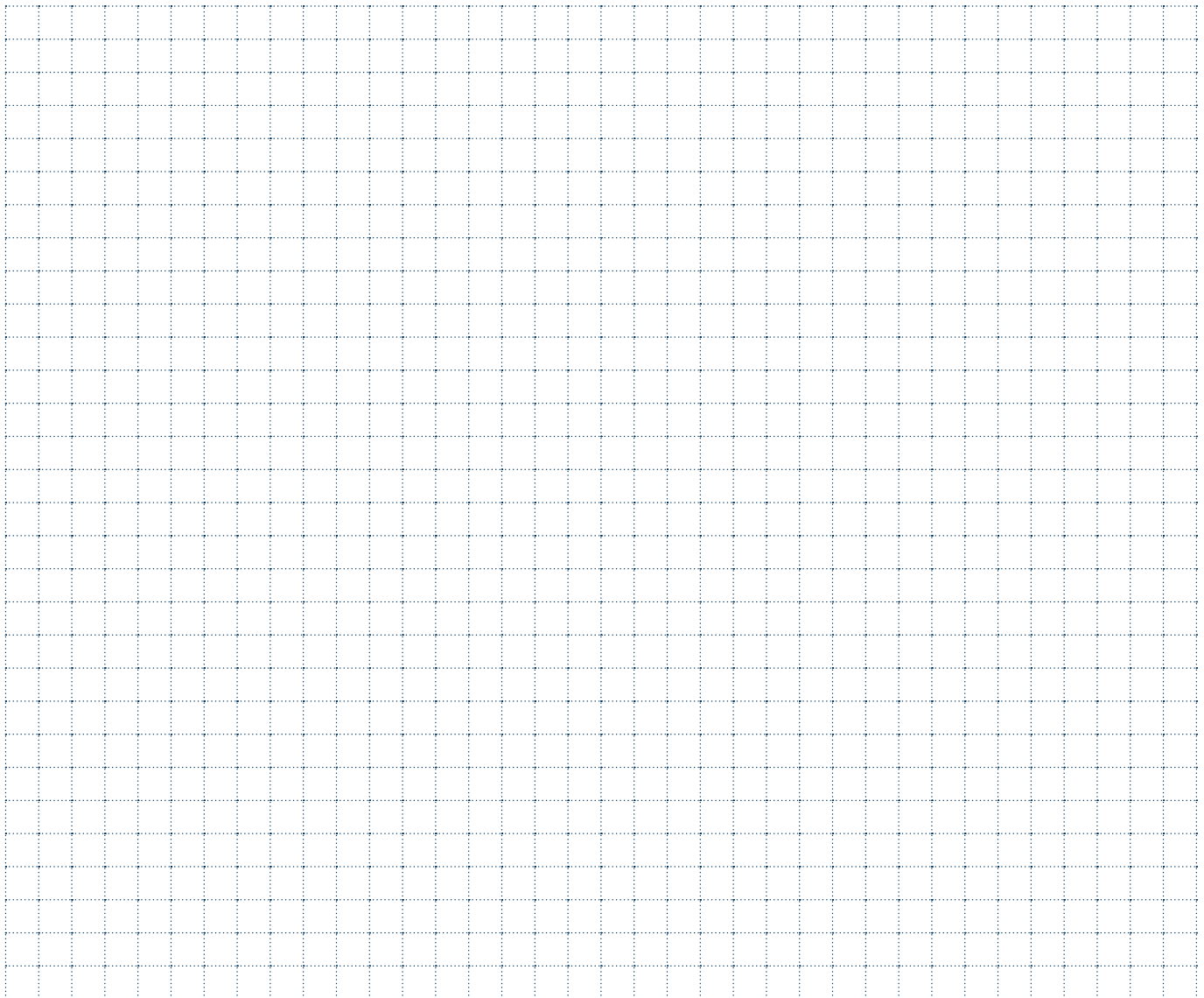
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,03
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,03
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,03
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,01-0,03
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,01-0,03
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,01-0,03
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,01-0,03
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,01-0,03
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,01-0,03
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,01-0,03
	NON METALLICI - PLASTICS	29-30	/	20-80			0,01-0,03
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,01-0,03
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

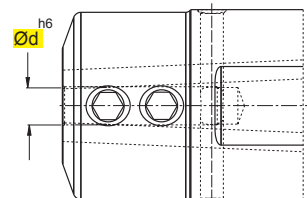
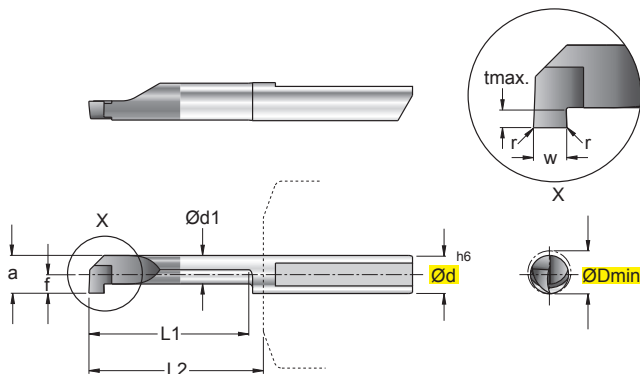
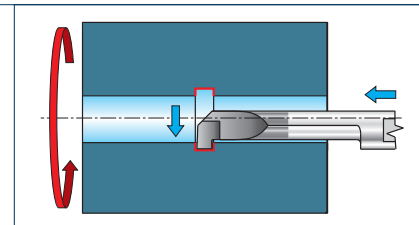
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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	COATED GRADES	
S102-05.0150-050-10.000R/L		5,0	5	3,30	1,9	4,40	1,0	-	1,5	10	13	●	●	○	●	○	■	■		
S102-05.0100-052-10.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,0	10	13	●	●	○	●	○	■	■		
S102-05.0100-052-20.000R/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	●	●	○	●	○	■	■		
S102-05.0150-052-20.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	20	23	●	●	○	●	○	■	■		
S102-05.0150-052-30.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	1,5	30	33	●	●	○	●	○	■	■		
S102-05.0200-052-10.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	10	13	●	●	○	●	○	■	■		
S102-05.0200-052-20.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	20	23	●	●	○	●	○	■	■		
S102-05.0200-052-30.000R/L		5,2	5	3,75	2,45	4,95	1,0	-	2,0	30	33	●	●	○	●	○	■	■		

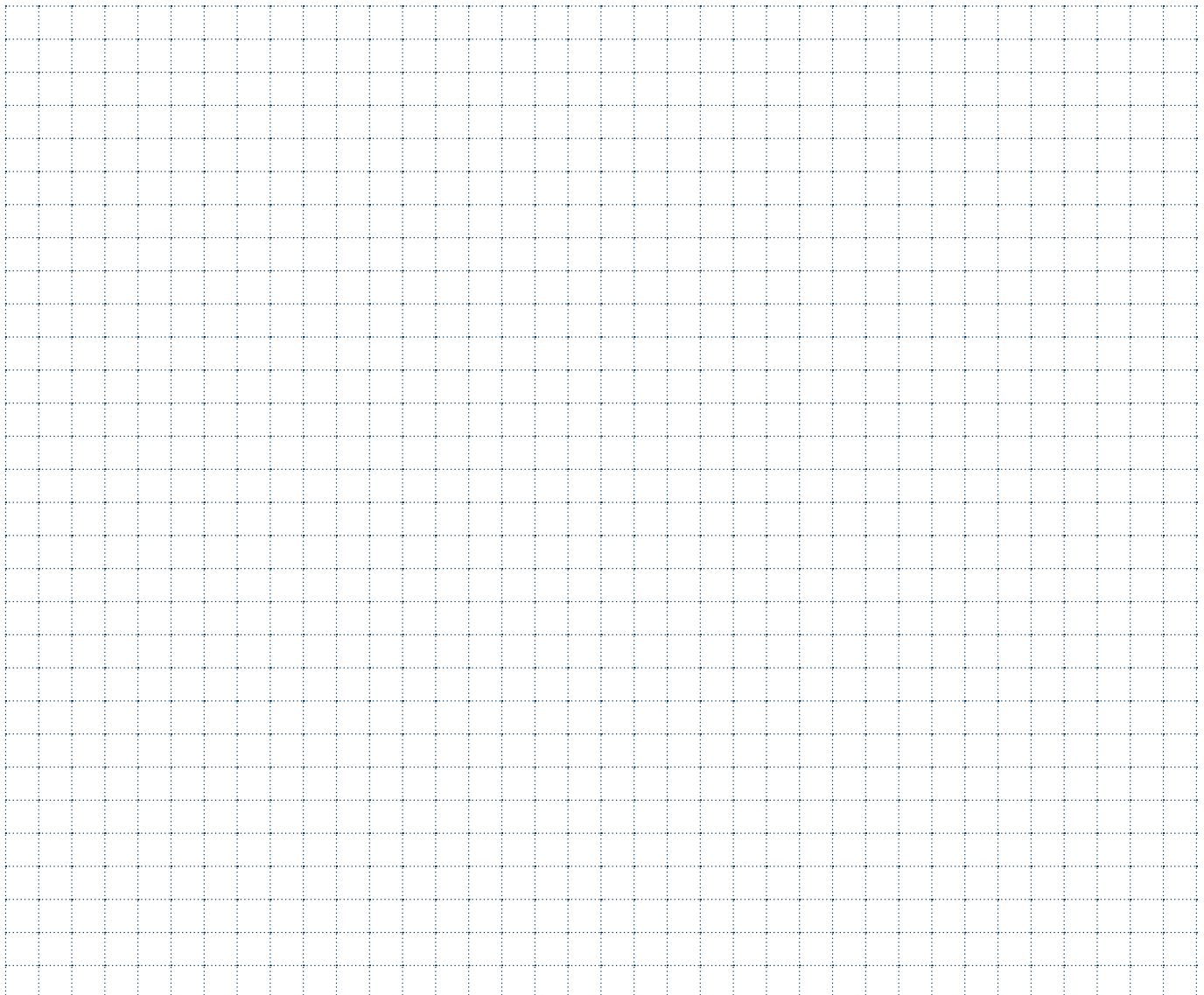
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,03
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,03
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,03
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,01-0,03
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,01-0,03
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,01-0,03
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,01-0,03
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,01-0,03
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,01-0,03
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,01-0,03
	NON METALLICI - PLASTICS	29-30	/	20-80			0,01-0,03
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,01-0,03
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

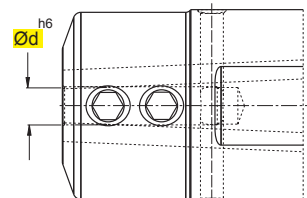
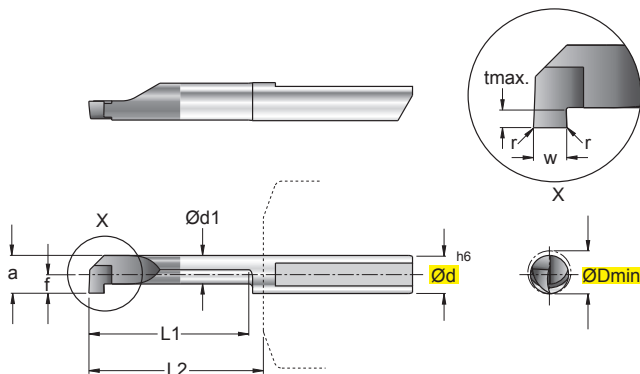
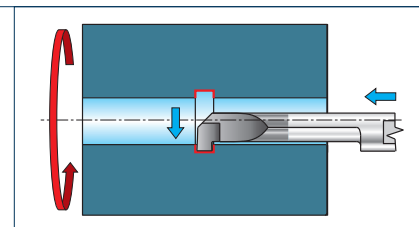
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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	NON RIV.	RIVESTITI	
																		CEMENTED	COATED GRADES	
S102-06.0100-062-15.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,0	15	18	●	●	●	●	○	■		■	
S102-06.0100-062-25.000R/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	●	●	●	●	○	■		■	
S102-06.0150-062-15.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	1,5	15	18	●	●	●	●	○	■		■	
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	●	●	●	●	○	■		■	
S102-06.0200-062-15.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	15	18	●	●	●	●	○	■		■	
S102-06.0200-062-25.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	25	28	●	●	●	●	○	■		■	
S102-06.0200-062-35.000R/L		6,2	6	3,95	2,95	5,95	1,8	-	2,0	35	38	●	●	●	●	○	■		■	

MATERIALI - MATERIALS Pag. 1065		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		0,01-0,03
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,03
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,03
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,01-0,03
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,01-0,03
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,01-0,03
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,01-0,03
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,01-0,03
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,01-0,03
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,01-0,03
	NON METALLICI - PLASTICS	29-30	/	20-80			0,01-0,03
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,01-0,03
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

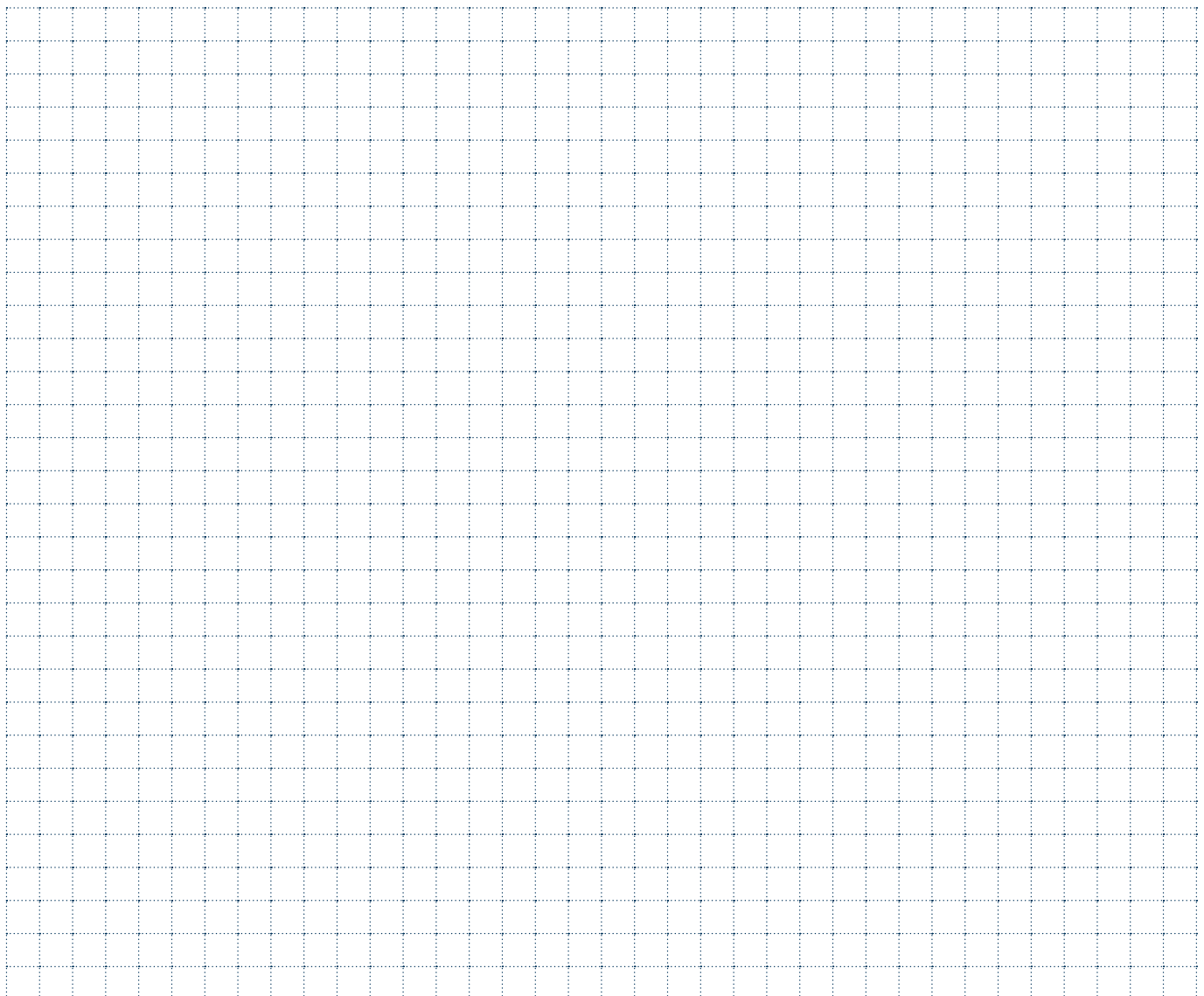
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED

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

fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION

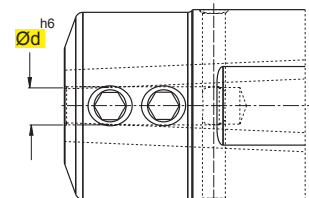
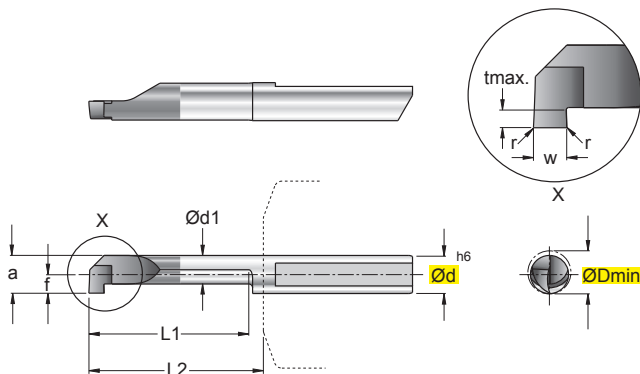
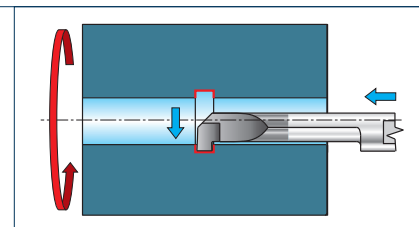
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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. CEMENTED CARBIDE GRADES		RIVESTITI 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	●	●	●	●	○	■		■		
S102-07.0100-072-25.000R/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	●	●	●	●	○	■		■		
S102-07.0150-072-15.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,5	15	18	●	●	●	●	○	■		■		
S102-07.0150-072-25.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,5	25	28	●	●	●	●	○	■		■		
S102-07.0150-072-35.000R/L		7,2	7	4,25	3,45	6,95	2,5	-	1,5	35	38	●	●	●	●	○	■		■		
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	●	●	●	●	○	■		■		

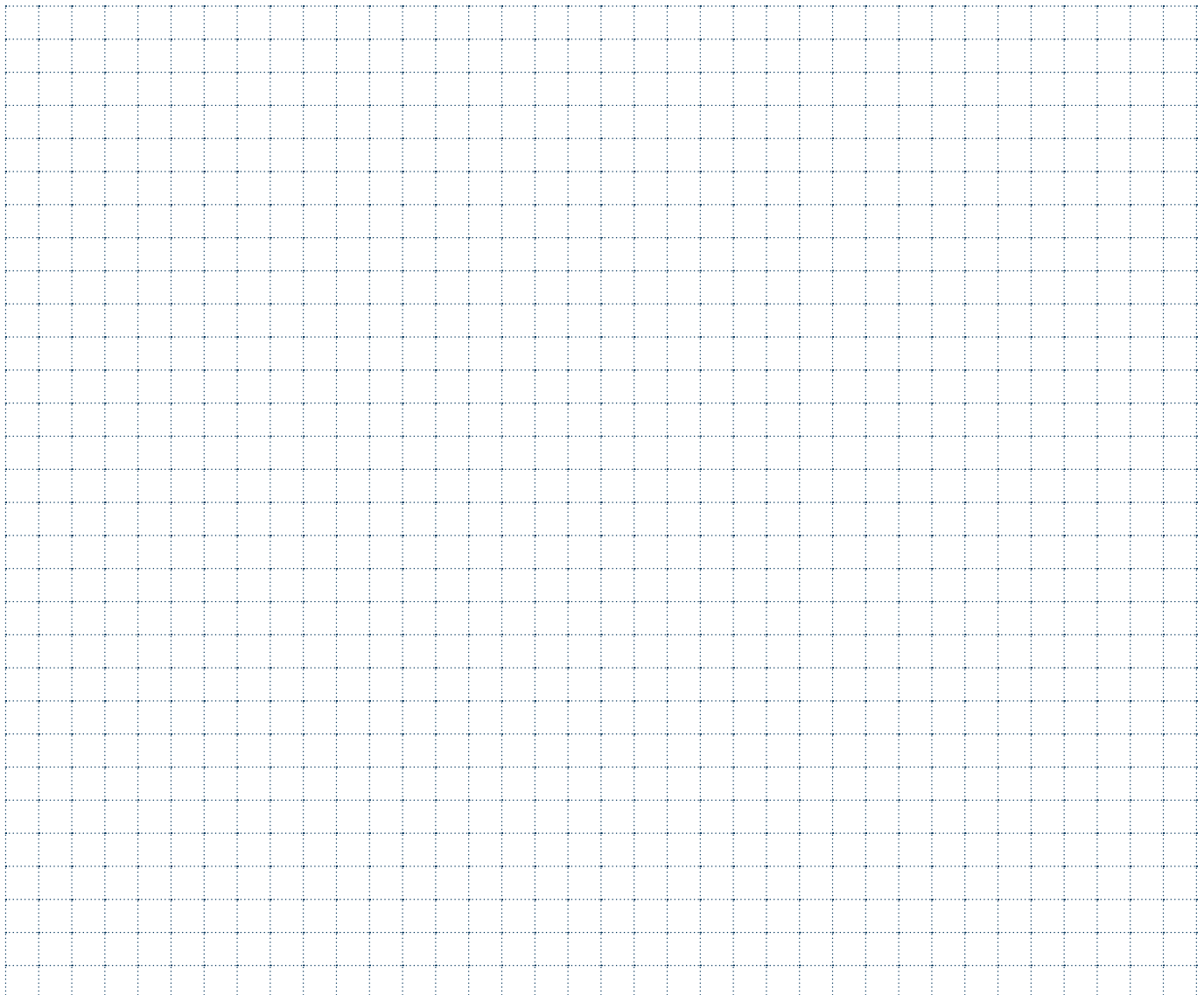
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,03
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,03
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,03
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,01-0,03
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,01-0,03
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,01-0,03
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,01-0,03
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,01-0,03
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,01-0,03
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,01-0,03
	NON METALLICI - PLASTICS	29-30	/	20-80			0,01-0,03
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,01-0,03
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

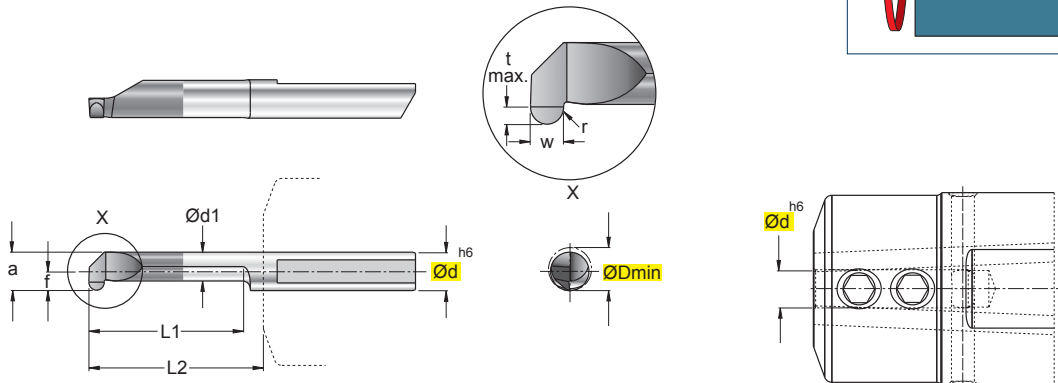
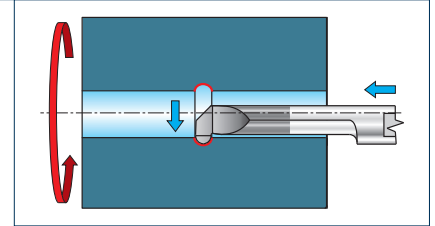
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES





S102-05.R...-...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. CEMENTED CARBIDE GRADES		RIVESTITI COATED GRADES / BESCHICHTET RECOUVERTS	
																		0	+0.03	N3635	F7835
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	●	●	●	●	○	■		■		

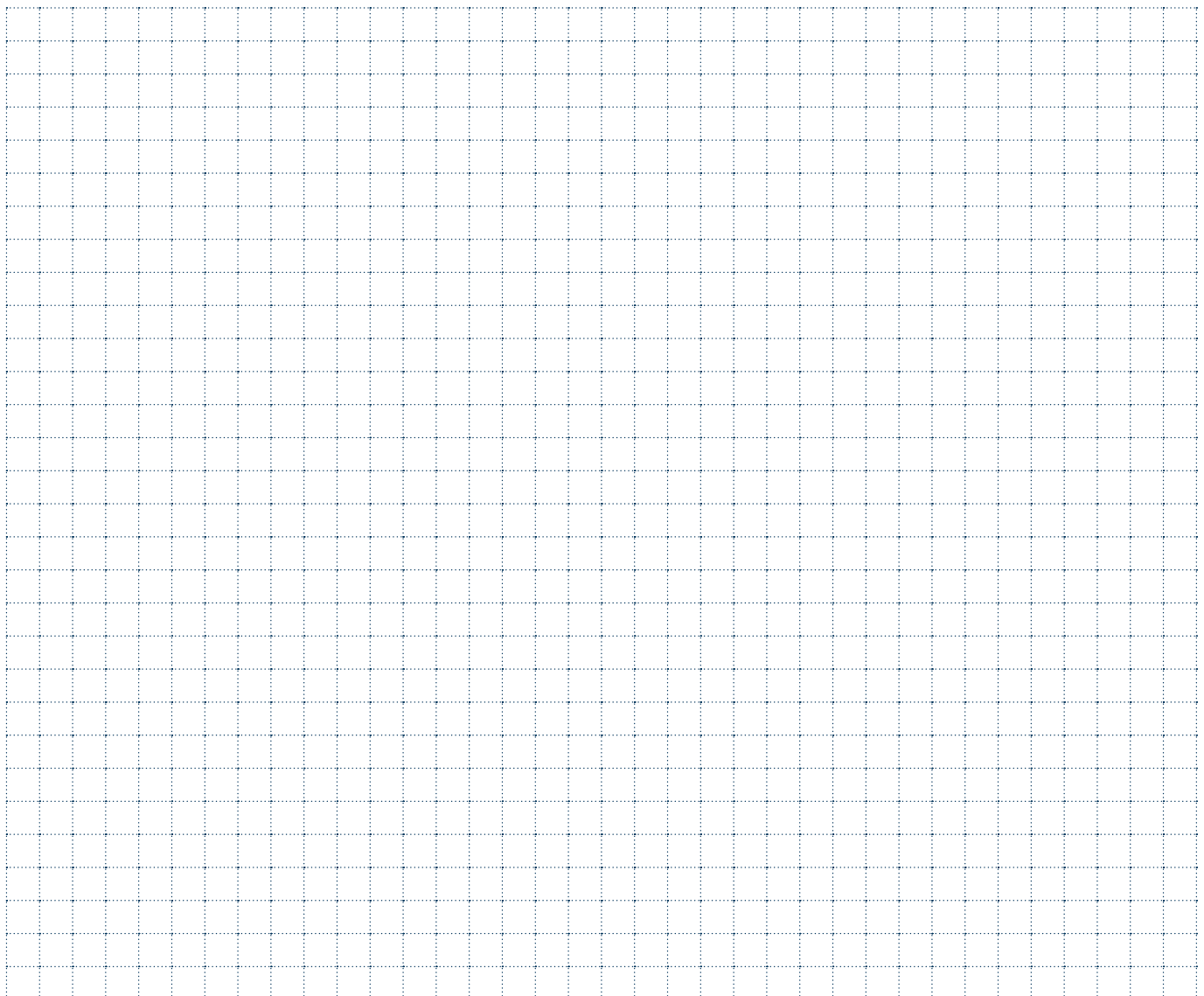
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,03
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,03
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,03
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,01-0,03
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,01-0,03
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,01-0,03
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,01-0,03
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,01-0,03
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,01-0,03
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,01-0,03
	NON METALLICI - PLASTICS	29-30	/	20-80			0,01-0,03
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,01-0,03
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

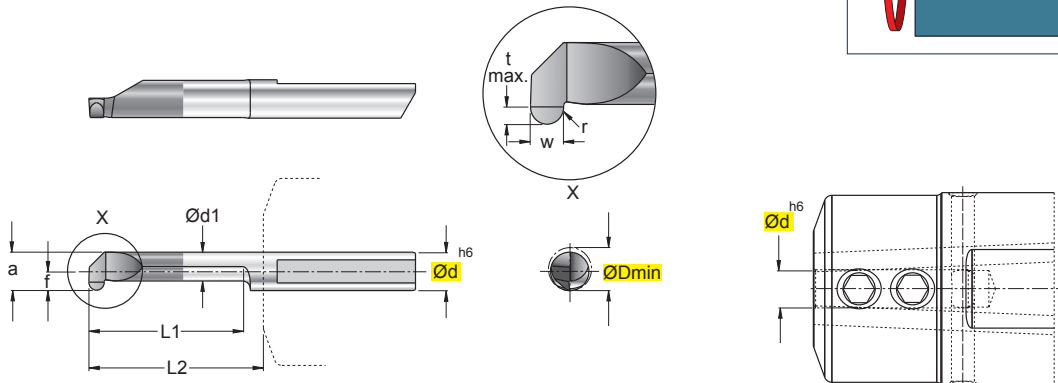
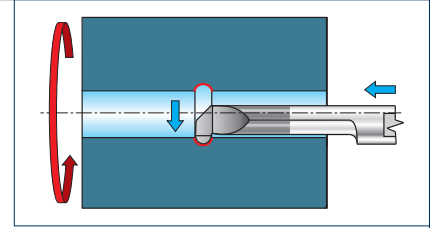
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S102-06.R...-...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	^{+0.03} ₀	L1							L2	NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	
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.R200-062-25.100R/L	6,2	6	3,95	2,95	5,95	1,8	1,0	2	25	28	●	●	●	●	○	■		■		

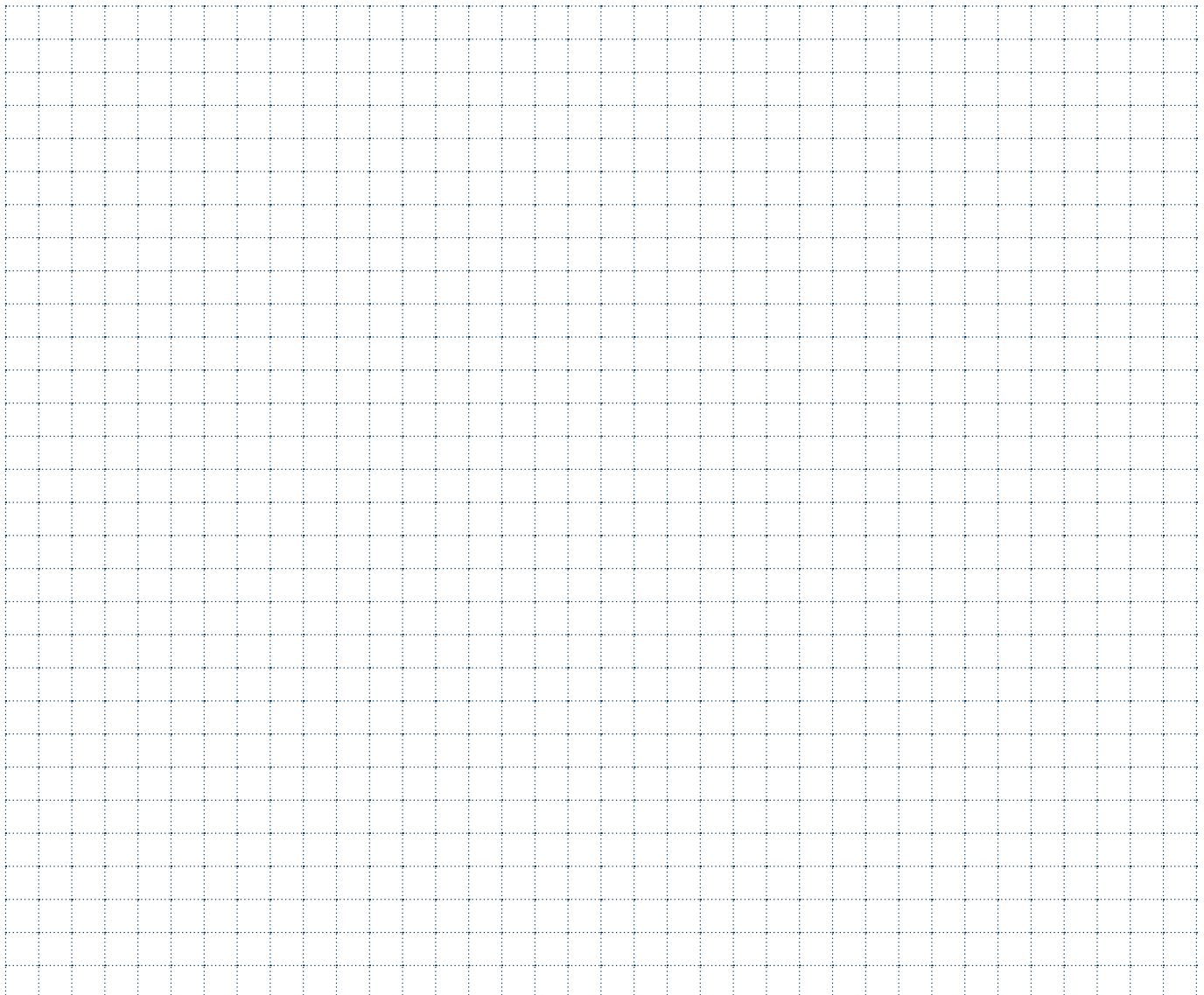
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fz mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,03
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,03
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,03
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240		50-100		0,01-0,03
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230		20-80		0,01-0,03
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		0,01-0,03
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	25-80	30-130		0,01-0,03
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	30-90	30-100		0,01-0,03
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	80-150			0,01-0,03
	RAME E SUE LEGHE - COPPER	26-28	90-110	50-110			0,01-0,03
	NON METALLICI - PLASTICS	29-30	/	20-80			0,01-0,03
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320		30-80		0,01-0,03
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾		30-80		0,01-0,03
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

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

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

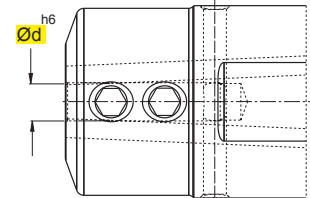
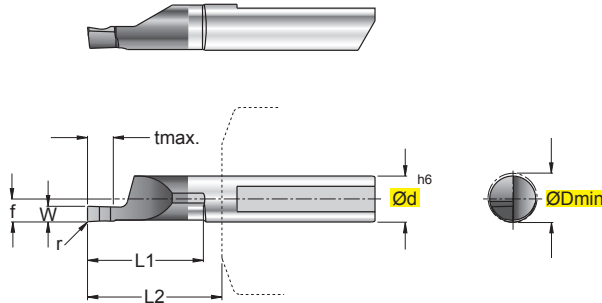
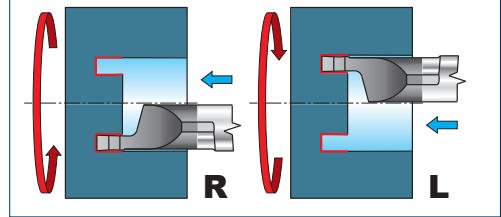
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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	$w_{+0,05}^0$	L1	L2	NON RIV. CEMENTED CARBIDE GRADES							RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS			
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		●	●	●	●	○		■		■	
S103-06.0250-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		●	●	●	●	○		■		■	

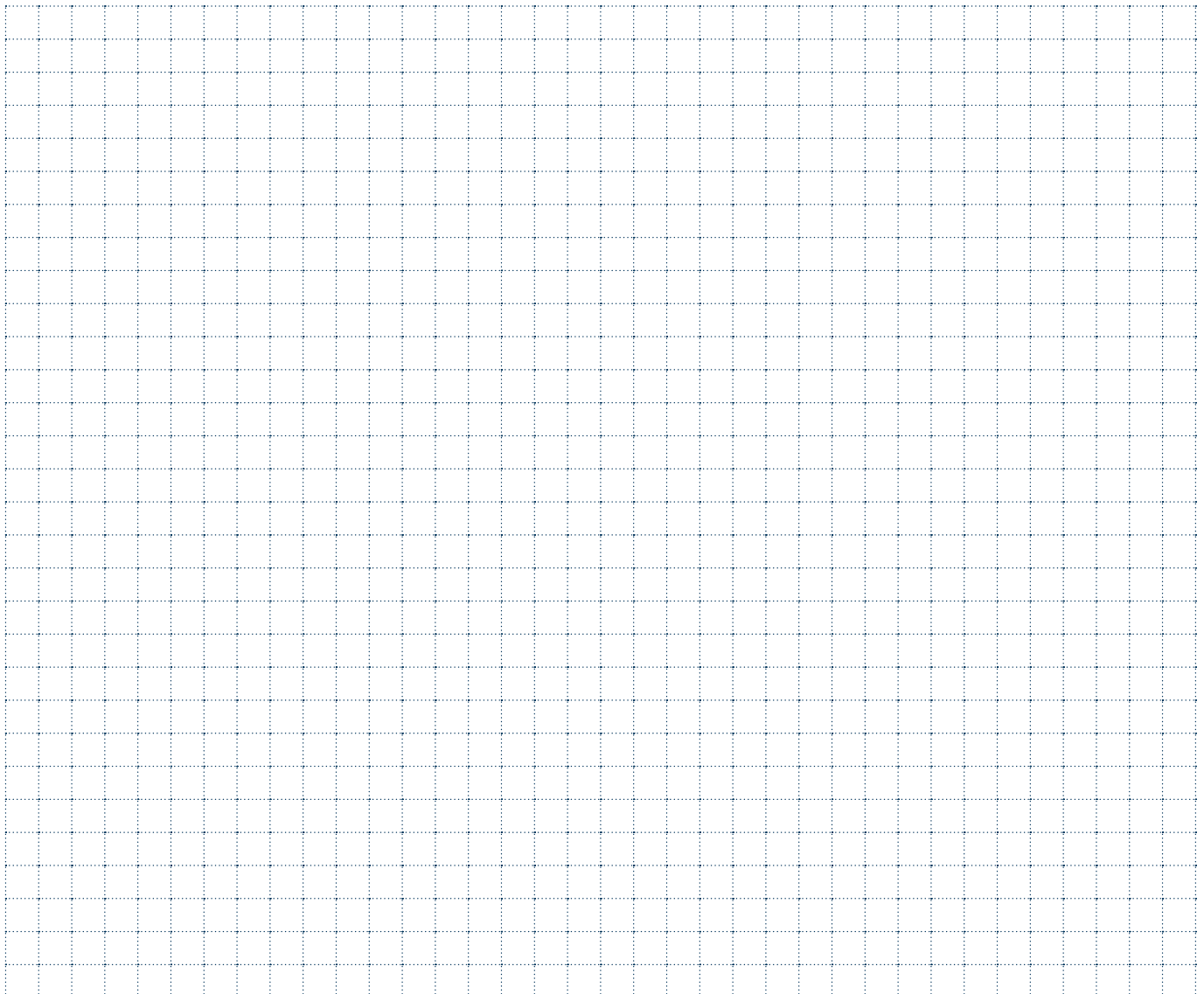
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,05
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,05
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,05
	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⁾				

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

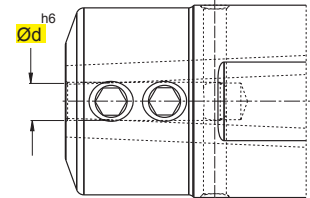
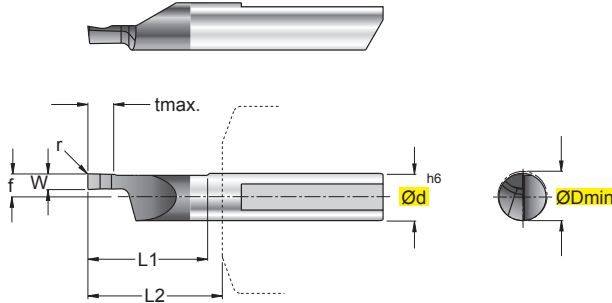
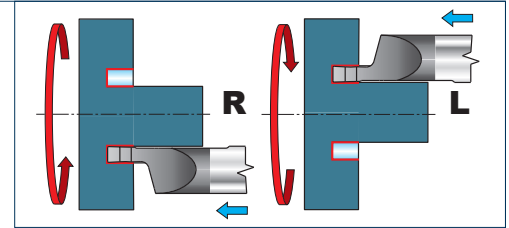
$$Vf = fn \cdot n = \text{mm/min}$$

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...-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	●	●	●	●	○		■		■		
S103-06.0250-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	●	●	●	●	○		■		■		

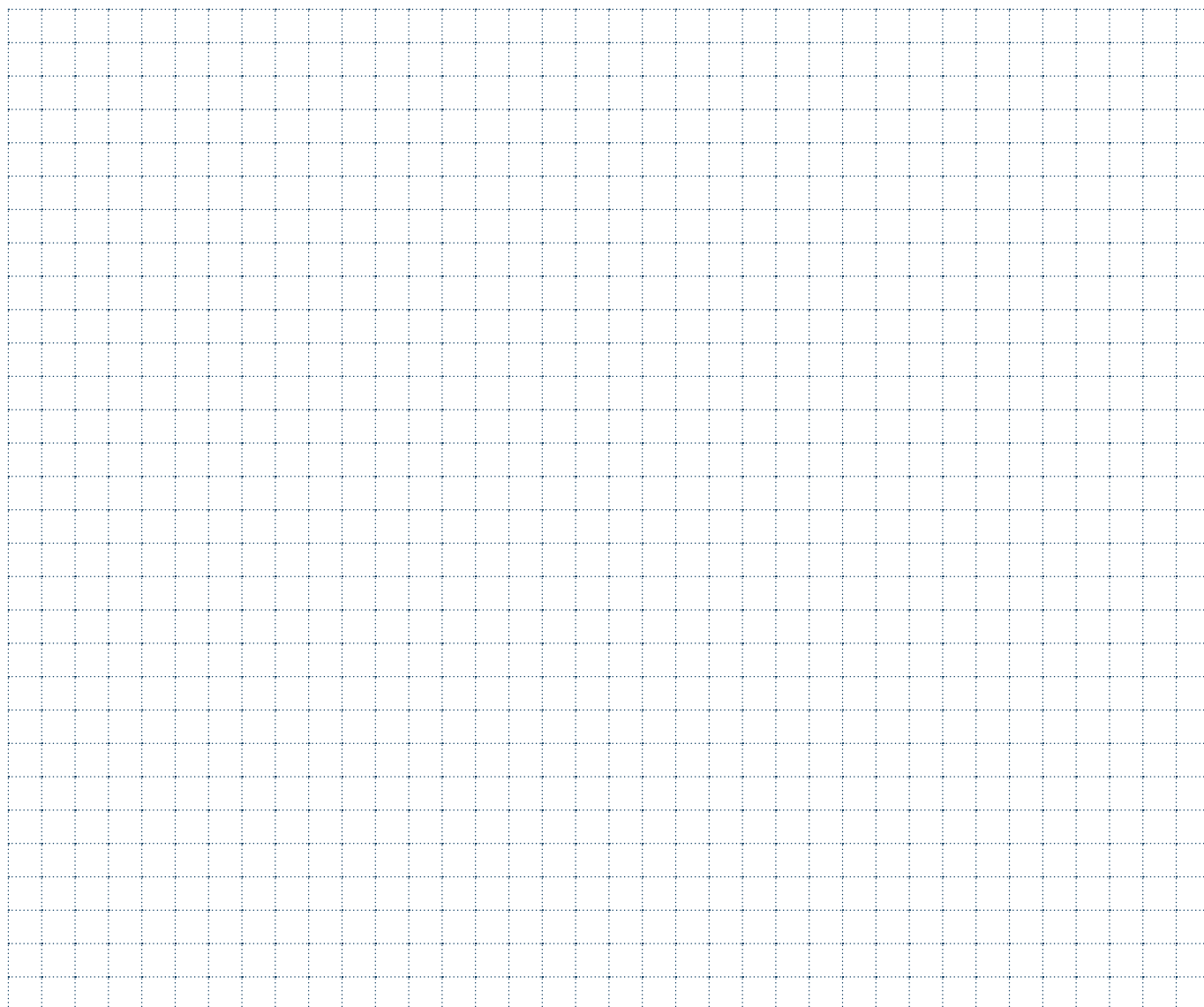
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,05
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,05
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,05
	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⁾				

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

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

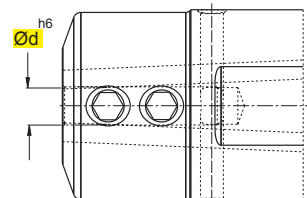
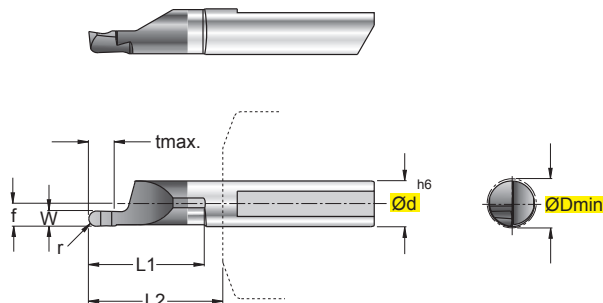
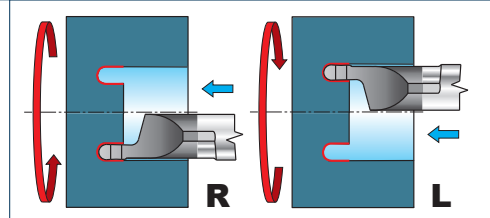
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
 n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
 fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
 Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

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	$w \begin{smallmatrix} +0,05 \\ 0 \end{smallmatrix}$	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.R200-I62-15.100R/L			6,2	6	2,95	4	1,0	2	15	18	●	●	●	●	○		■		■

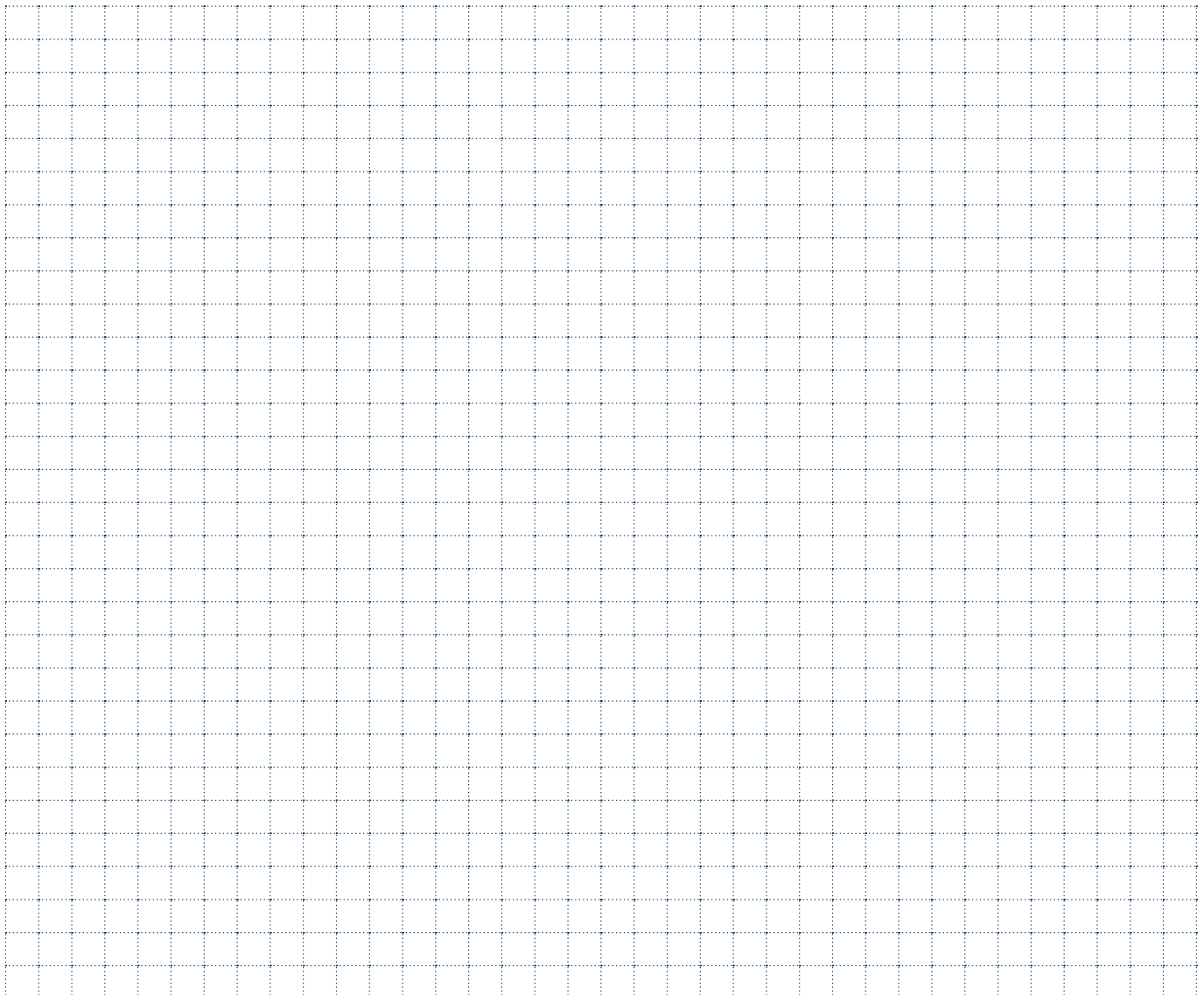
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,05
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,05
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,05
	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⁾				

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

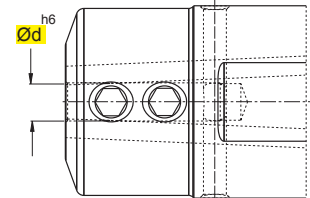
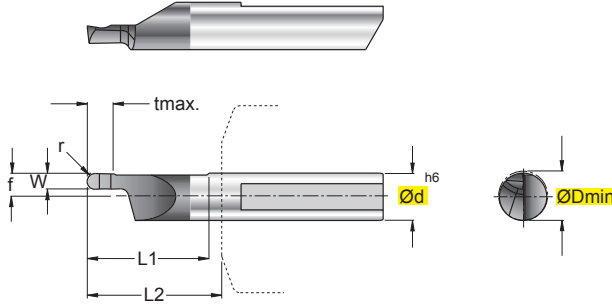
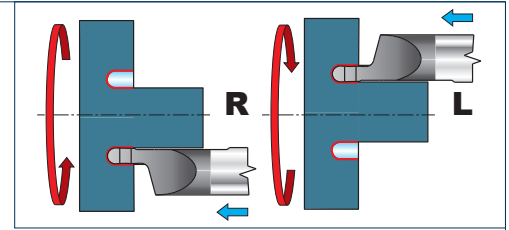
$$Vf = fn \cdot n = \text{mm/min}$$

- 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...-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.R200-E62-15.100R/L		6,2	6	2,95	4	1,0	2	15	18	●	●	●	●	○		■		■	

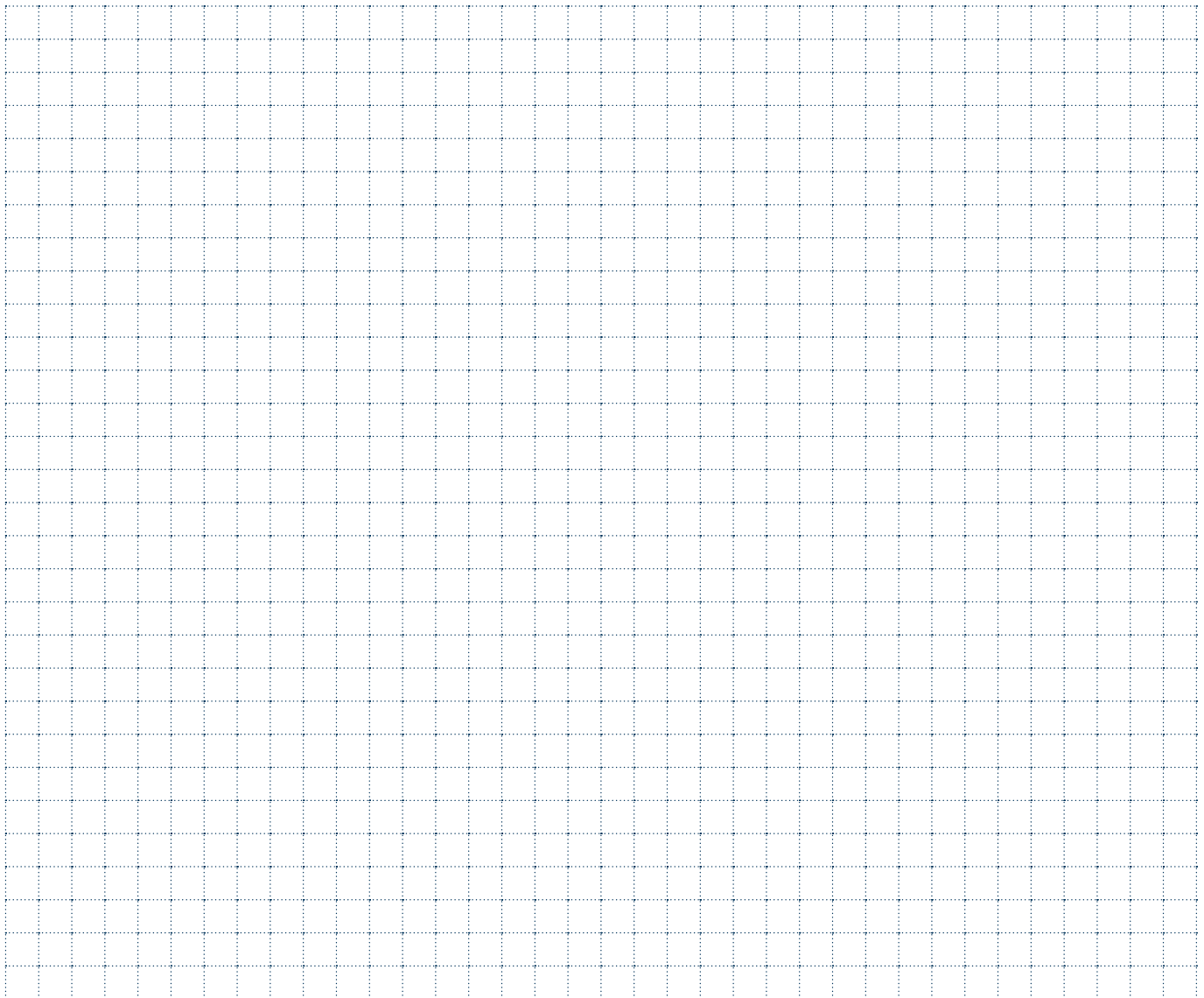
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,05
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,05
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,05
	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⁾				

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

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

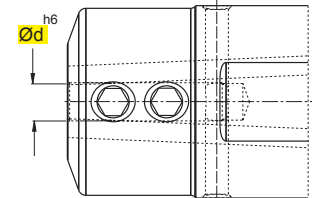
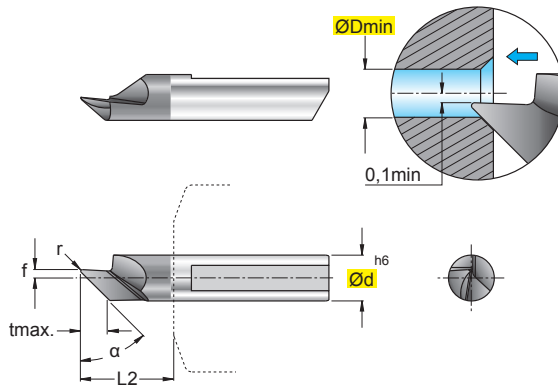
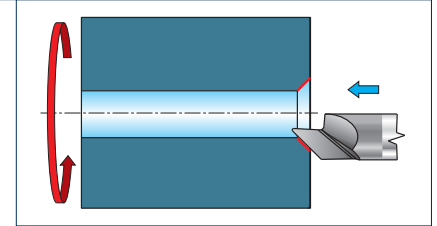
- Vc** = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



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

Smussatura - Chamfering



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		
S101-06.0045-011-35.020R/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	●	●	●	●	○		■		■	

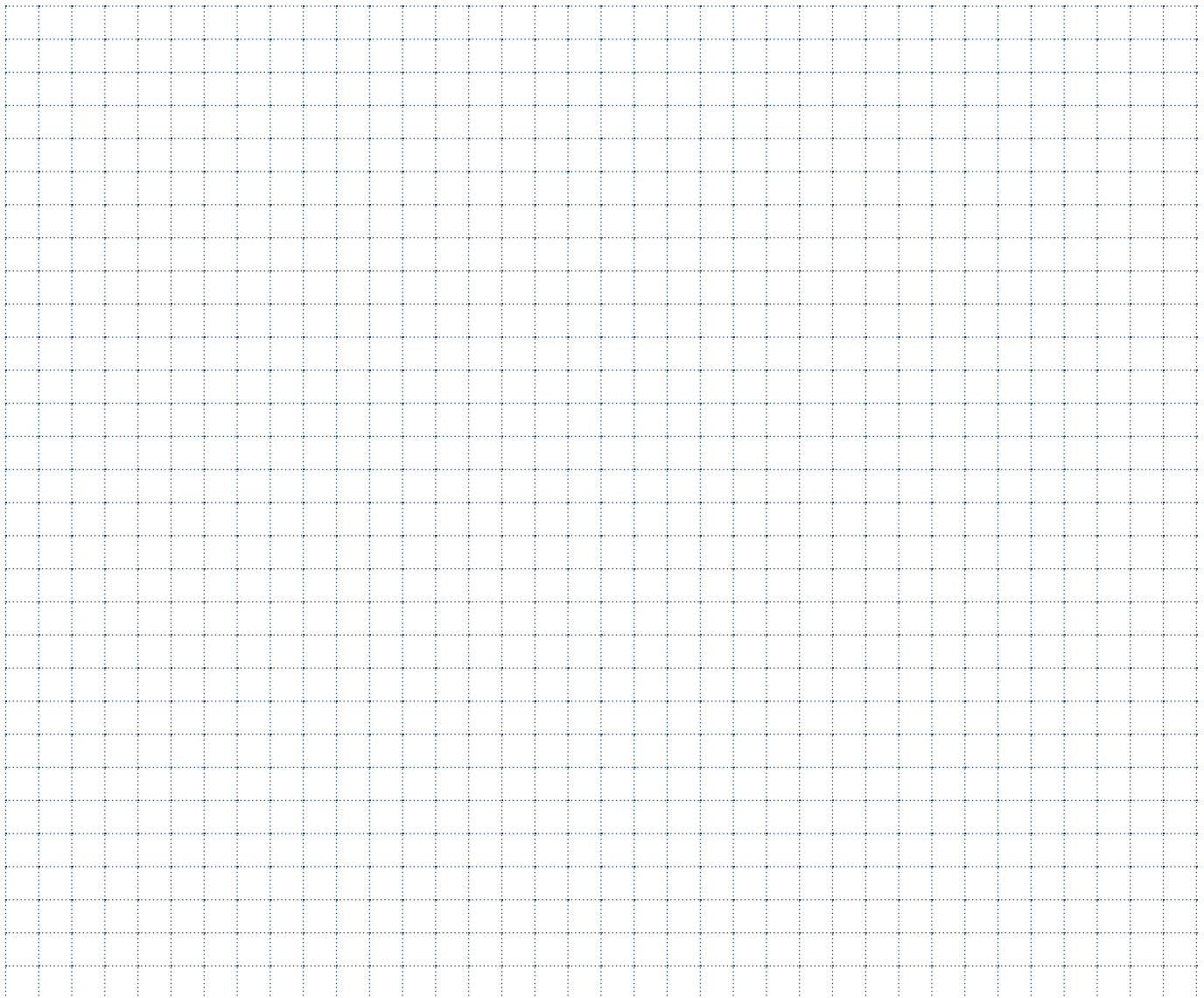
MATERIALI - MATERIALS Pag. 1065		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min			fn mm
				N3635	F7835		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300		80-160		0,01-0,05
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350		80-110		0,01-0,05
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325		60-100		0,01-0,05
	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⁾				

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

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

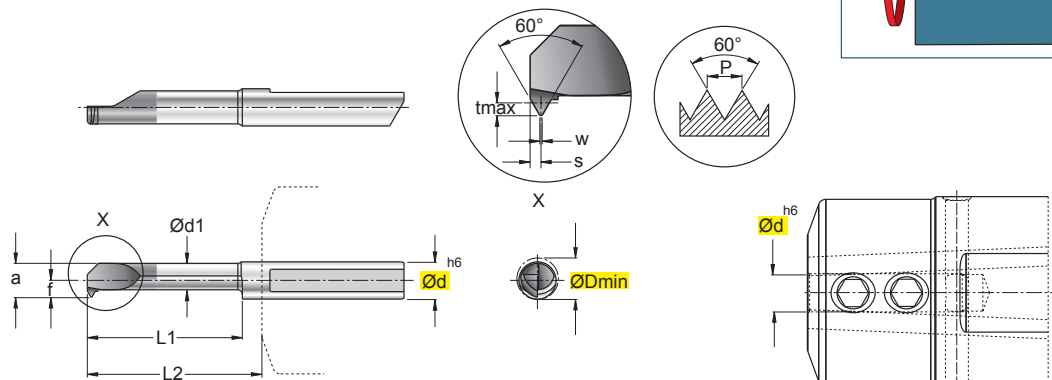
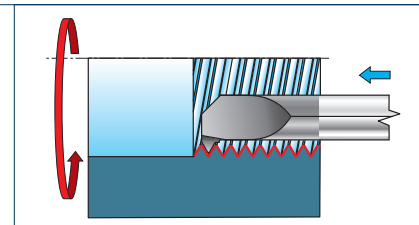
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

NOTE - NOTES



S104-...0060-...R

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.	RIVESTITI		
																			CEMENTED	COATED GRADES		
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	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	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 Pag. 1065		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		
	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	30-90	30-150		
K	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⁾				

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

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

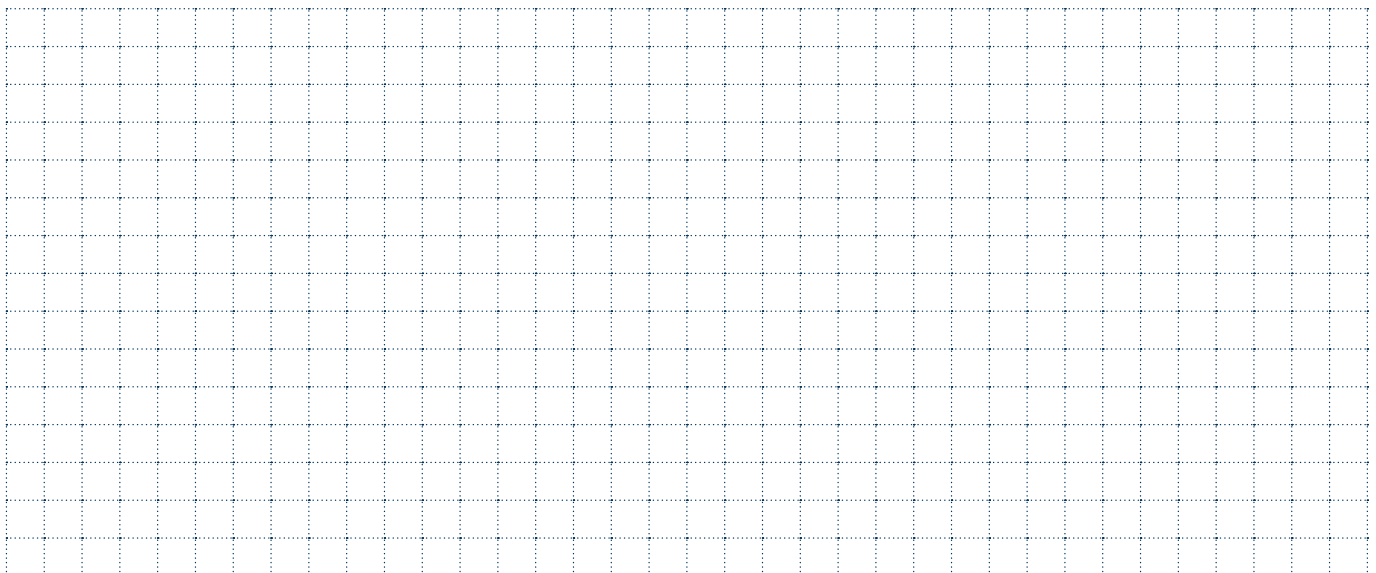
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED

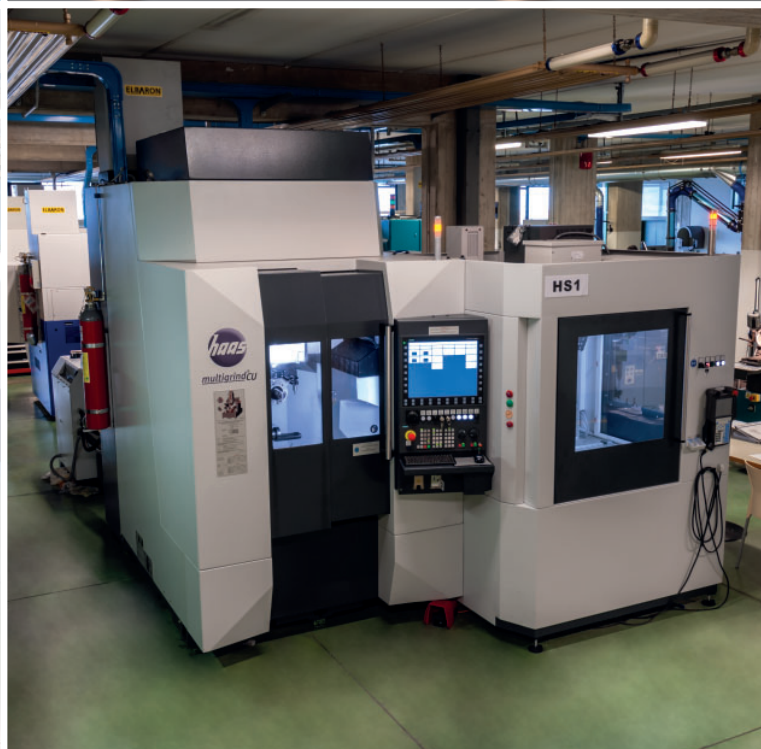
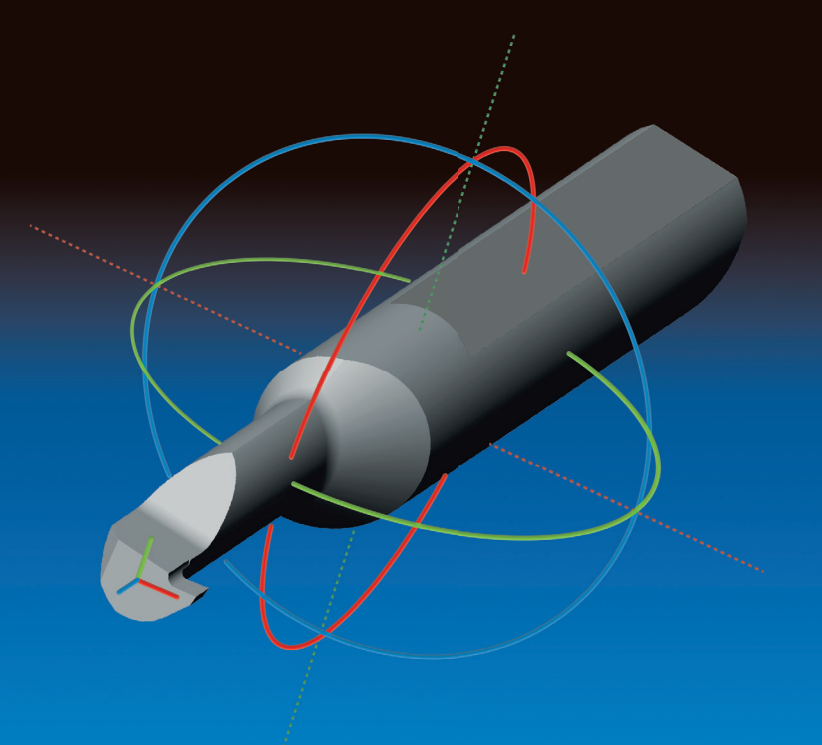
PASSO - PITCH		NUMERO DI PASSATE - NUMBER OF PASSES								
		P (DUREZZA N/mm ²) - (HARDNESS N/mm ²)					M	K	N	S
mm	Gg/TPI	400-500	500-700	700-850	850-1150	>1150				
0,5	48	5	5	5	5	8	8	5	8	5
0,8	32	6	6	6	6	8	8	6	8	6
1	24	7	7	7	7	8	8	7	8	7
1,25	20-19	8	8	8	8	10	10	8	10	8
1,5	16	10	10	10	10	12	12	10	12	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





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 MATERILIEN MAT.DIFFICILES					H MATERIALI DURI HARD MATERIALS HARTE MATERILIEN MATÉRIEAUX 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						

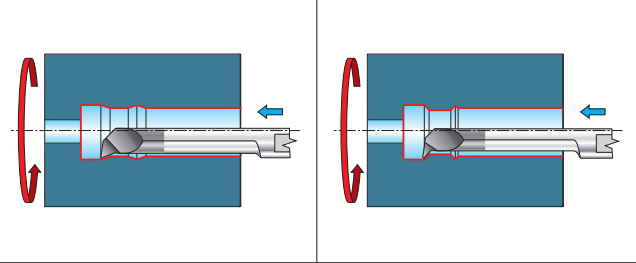
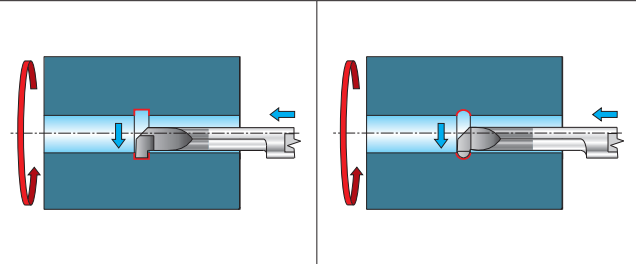
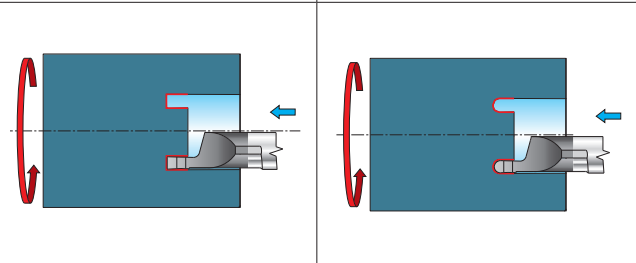
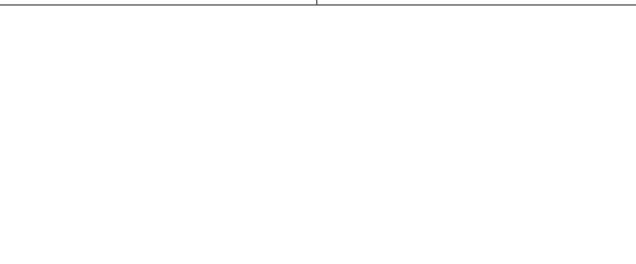


Impiego delle qualità - Application of the grade - Einsatz der verschiedenen sorten - Utilisation de les qualités

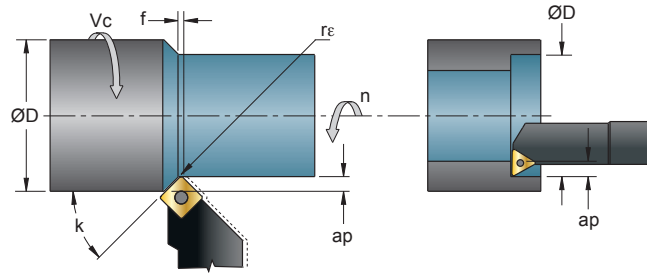
SHG	DIN ISO 513	MATERIALE - MATERIAL MATERIALIEN - MATÉRIEAUX						QUICK PICK	INDICAZIONI - USO	
		P ACCIAI STEELS STAHL ACIER	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	K GHISA CAST IRON GRAUGUSS FONTE GRISE	N MAT.NON FERROSI NONFERROUS MAT. NICHTEISENMATERIALIEN	S MAT.DIFFICILI DIFFICULT MATERIAL SCHWIERIGE MATERILIEN MAT.DIFFICILES	H MATERIALI DURI HARD MATERIALS HARTE MATERILIEN MATÉRIEAUX DURS			
N3635	HW K30-40 N30-40			○	●			 Tenacità + Toughness -	 	 - 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
F7835	HC P30-40 M30-40 K30-40 PVD S30-40 H30-40	●	●	●		○		 Tenacità + Toughness -	 	- 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

- 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

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

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

Made In Italy



**FILIALE DI MODENA
MODENA SUBSIDIARY**

Via Mozart, 47
41122 Modena (MO) Italy
Tel. 0039 059 280706
Fax. 0039 059 280109
saumodena@sautool.it
www.sautool.it

**FILIALE DI TORINO
TORINO SUBSIDIARY**

Strada Vicinale della Cebrosa 86-A
10156 Torino (TO) Italy
Tel. 0039 011 8960193
Fax. 0039 011 8960193
sautorino@sautool.it
www.sautool.it



SAU S.p.A.

Via dei Raseni, 6/B
41040 Polinago (MO) Italy
Tel. 0039 0536 47510
Fax. 0039 0536 47275
infosau@sautool.it
www.sautool.it