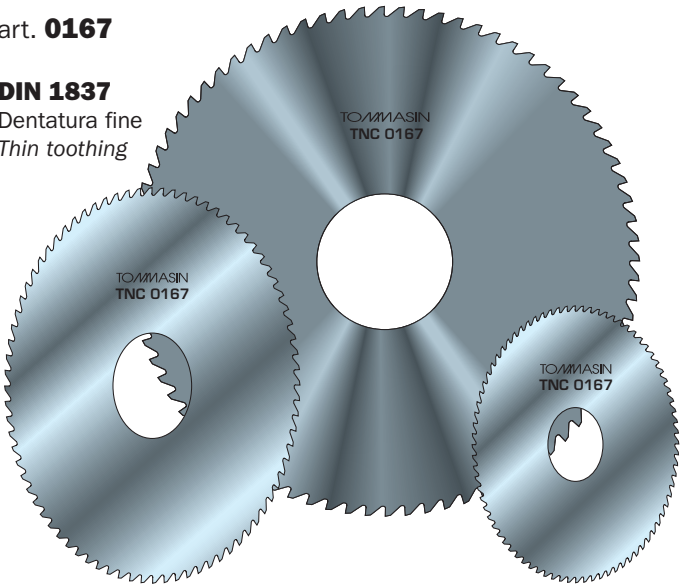


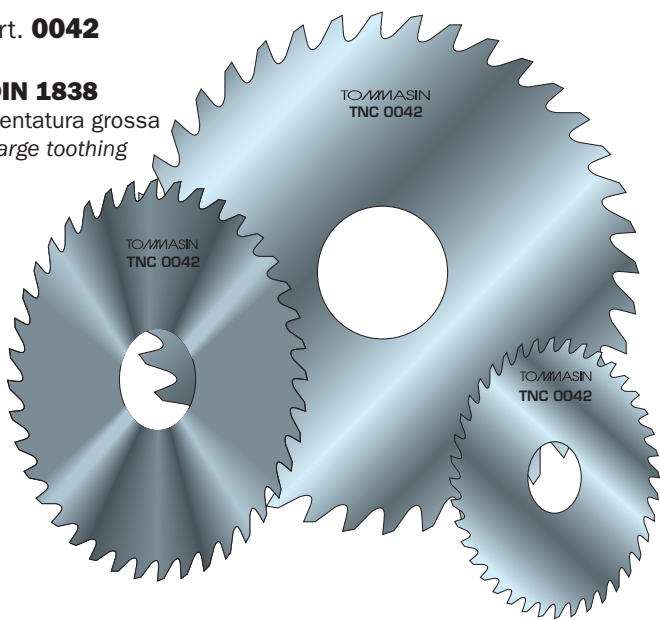
art. **0167**

DIN 1837
Dentatura fine
Thin toothing

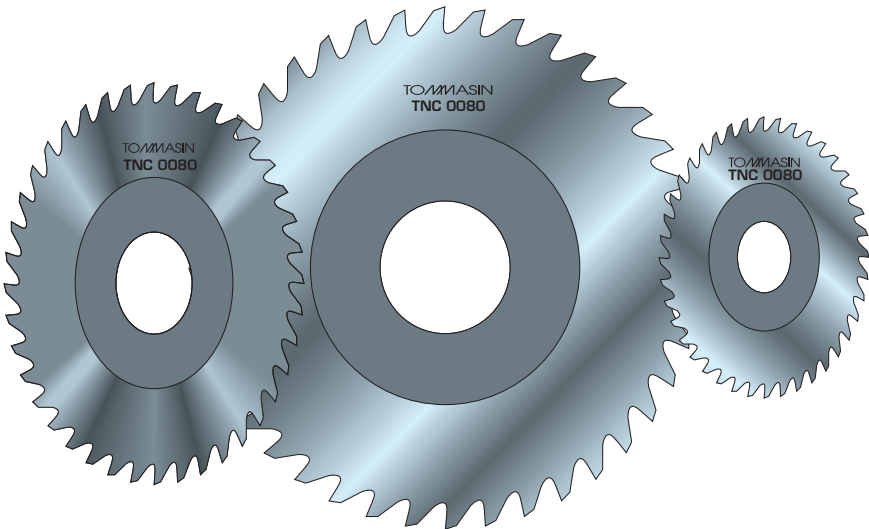


art. **0042**

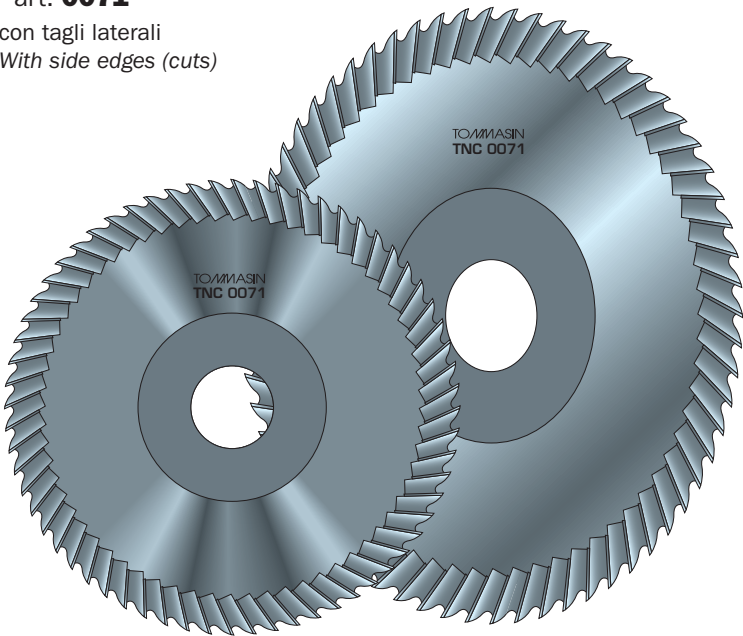
DIN 1838
Dentatura grossa
Large toothing



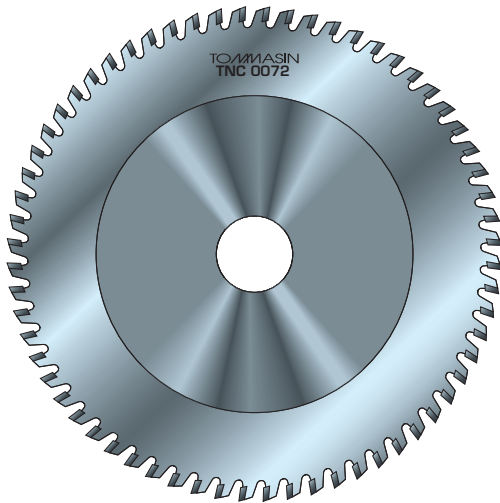
*art. **0256**
Con Mozzo
With Hub



*art. **0071**
con tagli laterali
With side edges (cuts)



*art. **0072**
con placchette riportate
With reported blade



* = a richiesta - on request

Ø mm	Ø 20		Ø 25		Ø 30		Ø 40			Ø 50			Ø 63		
FORO/Hole	5h7		8h7		8h7		10h7			13h7			16h7		
SPESSORE Thickness	DIN 1837	DIN 1838	DIN 1837	DIN 1838	DIN 1837	DIN 1838	DIN 1837	DIN 1838		DIN 1837	DIN 1838		DIN 1837	DIN 1838	
0,2	80	40	80	48	100	72	128	80	64	128	100	64	160	128	100
0,3	64	30	80	48	80	72	100	80	64	128	100	64	140	128	80
0,4	64	30	64	38	80	60	100	60	44	100	80	64	128	100	64
0,5	48	22	64	38	80	60	100	60	44	100	64	48	128	80	64
0,6	48	22	64	38	80	60	100	60	44	100	64	48	128	64	48
0,7	48	22	48	28	64	36	80	48	30	80	64	40	100	64	48
0,8-0,9	48	20	48	28	64	36	80	48	30	80	64	40	100	64	48
1-1,1	40	20	48	28	64	30	64	48	30	80	64	40	100	64	48
1,2-1,5	40	20	48	28	48	24	64	48	30	80	64	40	80	64	40
1,6-1,9	40	20	40	24	48	24	64	48	30	64	40	32	80	64	40
2÷2,4	32	18	40	24	48	24	48	40	30	64	40	32	80	64	40
2,5÷2,9	32	16	40	24	40	22	48	40	30	64	40	24	64	40	32
3÷3,5	24	14	32	18	40	22	48	40	28	48	32	24	64	40	32
3,6÷4	24	14	32	18	40	22	48	40	28	48	32	24	64	32	24
4,1÷5,2	24	14	32	18	32	16	40	36	22	48	30	24	48	32	24
5,3÷6	24	14	24	14	32	14	40	36	26	40	24	20	48	32	20
Ø mm	Ø 80			Ø 100			Ø 125			Ø 160			Ø 200		
FORO/Hole	22h7			22h7			22h7			32h7			32h7		
SPESSORE Thickness	DIN 1837	DIN 1838		DIN 1837	DIN 1838		DIN 1837	DIN 1838		DIN 1837	DIN 1838		DIN 1837	DIN 1838	
0,4÷0,5	160	128	100	160	128	100	/	/	/	/	/	/	/	/	/
0,6÷0,7	128	100	64	160	128	80	160	120	64	/	/	/	/	/	/
0,8÷0,9	128	100	64	128	80	64	160	100	64	180	120	80	200	160	120
1÷1,1	100	64	48	128	64	48	160	100	64	160	120	80	200	140	100
1,2÷1,5	100	64	48	128	64	48	128	80	64	160	120	80	200	140	100
1,6÷1,9	100	64	48	100	64	48	128	80	64	160	120	80	160	100	80
2÷2,5	80	64	40	100	64	48	100	64	48	128	80	64	160	100	80
2,6÷2,9	80	64	40	100	64	40	100	64	48	128	80	64	160	80	64
3÷3,5	80	64	40	80	64	40	100	64	48	128	80	64	128	80	64
3,6÷4	64	40	32	80	64	40	100	64	48	100	64	48	128	80	64
4,1÷5,2	64	40	24	80	64	40	80	64	40	100	64	48	128	80	64
5,3÷6	64	32	24	64	40	32	80	64	40	100	64	48	100	64	48

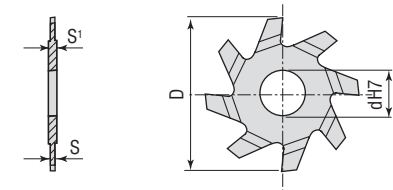
*art. **0161**

Ø		foro/hole	Z
50	0,30	10	160
50	0,40	10	160
50	0,45	10	160
50	0,50	10	160
50	0,60	10	160
50	0,70	10	160
50	0,80	10	160

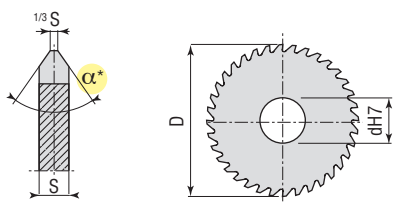
Ø		foro/hole	Z
63	0,30	10	200
63	0,40	10	200
63	0,45	10	200
63	0,50	10	200
63	0,60	10	200
63	0,70	10	200
63	0,80	10	200

FRESE PER SMICCAGGIO COLLETTORI ELETTRICI
MILLING CUTTERS FOR ELECTROMOTOR

***Art. 0089** Profilo normale - *Normal profile*

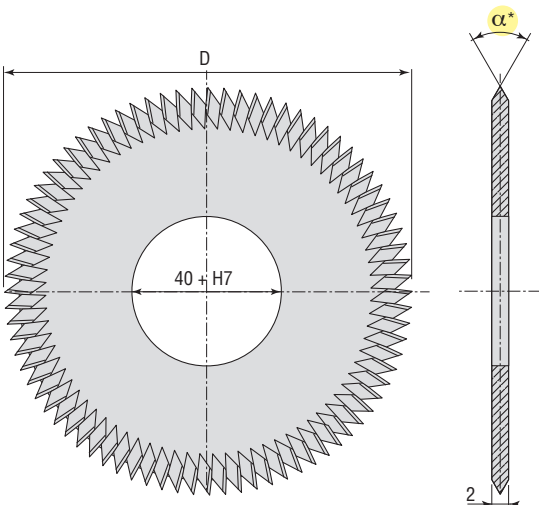


***Art. 0090** Profilo a "V" - *"V" profile*



FRESE CIRCOLARI PER CIRCUITI STAMPATI
CIRCULAR CUTTERS FOR PRINTED CIRCUIT

***Art. 0091**
Per macchine scoring - For scoring machines



Impiego: Scegliendo il metallo duro con le caratteristiche adatte al materiale da lavorare, le ns. seghe circolari permettono di ottenere la maggior produzione determinata dalle alte velocità di taglio, con il minimo costo di unità di prodotto.

La massima resa si ottiene curando alcuni accorgimenti essenziali, quali: l'assenza dei giochi dell'albero porta frese, bloccaggio rigido del pezzo da lavorare, evitando pressioni laterali.

Entrata in lavoro morbida ed avanzamento costante, che varia da 0,002 a 0,04 in rapporto al materiale da lavorare, spessore e diametro della sega ed eventuali vibrazioni.

Lubrificare dovunque è possibile con oli emulsionabili se si lavorano materiali ferrosi; petrolio o kerosene per leghe leggere, quali alluminio, alpacca, ecc.; getto d'aria compressa, se ghisa o fibre plastiche.

Use: Choosing carbide with the right characteristic for material to work, our circular saws let obtain the greatest production determined by high cutting speed, with the minimum product unit cost.

You can get the greatest result observing some main shrewdness, like the lack of cutters shaft play, rigid blocking of the part to mill, avoiding side pressing.

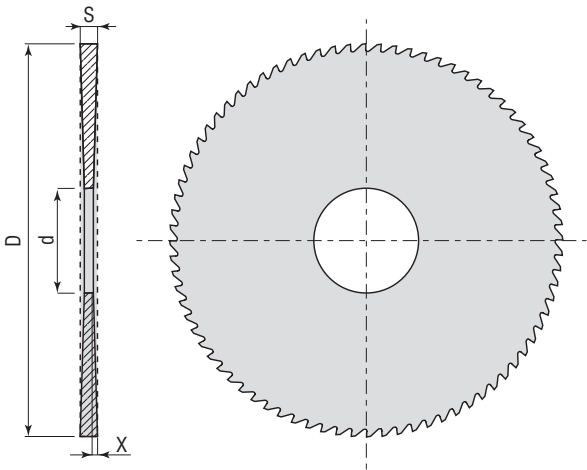
Smooth working entrance and invariable feeding, with a tolerance from 0,002 to 0,04, with respect to material to mill, thickness, saw diameter and possible vibrations.

It's possible to lubricate everywhere with emulsible oil if working on ferrous metal; petroleum or kerosene for light alloy, like aluminium, nickel silver, etc.; compressed air jet if working on cast iron or plastic fibre.

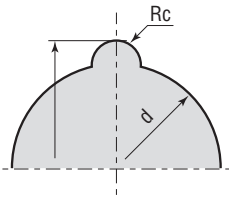
* = a richiesta - on request

Sega circolare senza mozzo

Circular saw without hub



*OPTIONAL

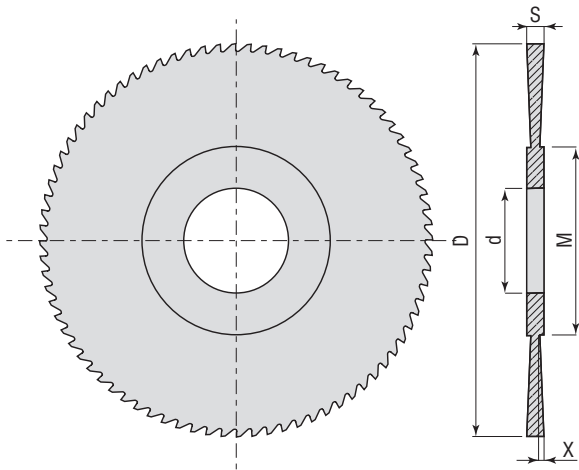


DRAGGING
SPLINE

CHIAVETTA
TRASCINAMENTO

Sega circolare con mozzo

Circular saw with hub



Rastremazioni e scarichi (X) - Ns. standard Tapering and releasing (X) - Our Standard			
Scarico Tot. / Tot. Releasing = X2			
D	12-30		0,01 ÷ 0,03
D	40		0,02 ÷ 0,03
D	50		0,03 ÷ 0,04
D	63		0,04 ÷ 0,06
D	70		0,05 ÷ 0,07
D	80		0,06 ÷ 0,08
D	100		0,07 ÷ 0,09
D	125		0,08 ÷ 0,1

Velocità di taglio Cutting speed		
Materiale	Materials	V = m/min
Acciaio 50 Kg./mm²	Steel 50 Kg./mm²	140 ÷ 160
Acciaio inox	Stainless steel	80 ÷ 150
Acciaio 120 Kg./mm²	Steel 120 Kg./mm²	35 ÷ 45
Acciaio fuso	Steel jets	25 ÷ 35
Ghisa in fusione	Grey cast iron	110 ÷ 130
Titanio	Titanium	25 ÷ 35
Metalli non ferrosi	Non ferrous metals	150 ÷ 220
Materie sintetiche	Synthetic materials	280 ÷ 360

Grado di finitura

PIANI LATERALI = Lappatura speculare
SPOGLIA INFERIORE = Superfinitura
SPOGLIA SUPERIORE = Lappatura

Finishing limit

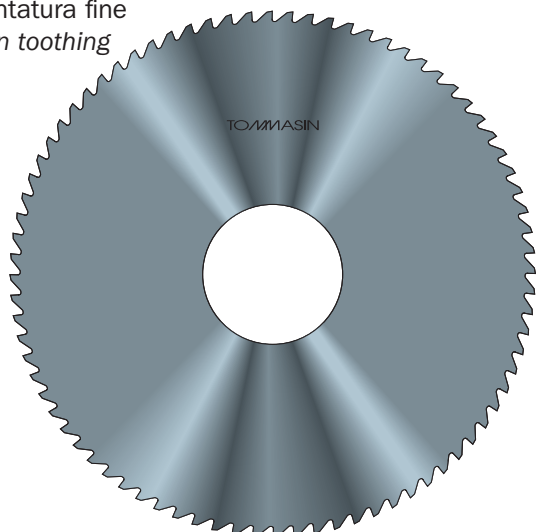
SIDE FACE = Specular lapping
LOWER RELIEF ANGLE = Super finishing
UPPER RELIEF ANGLE = Lapping

Tolleranze / Tolerance

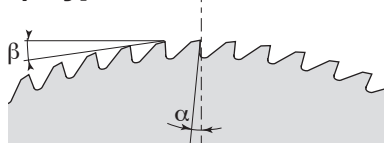
Spessore / Thickness + 0,01 Diametro / Diameter + 0,2 - 0 Foro / Hole H7 0

Art. 0167 DIN 1837

Dentatura fine
Thin toothing



Tipo / Type A **DIN 1837**



Dentatura fine - Thin teeth

Acciaio 120 Kg./mm² - Ghisa in fusione - Acciaio fuso

Steel 120 Kg./mm² - Grey cast iron - Steel jets

$\alpha = 0 \div 5^\circ$ $\beta = 6 \div 8^\circ$

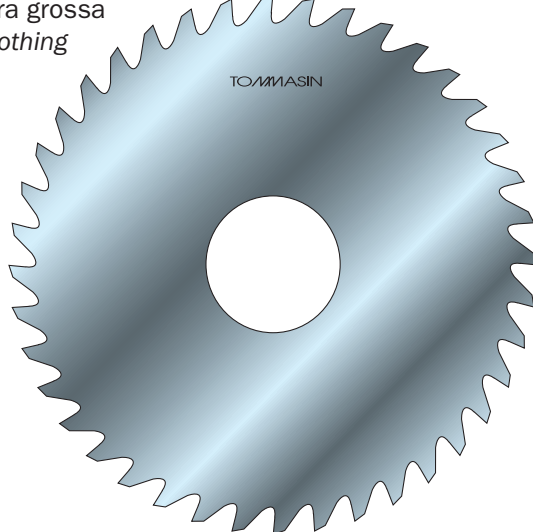
Acciaio 50 Kg./mm² - Metalli non ferrosi

Steel 50 Kg./mm² - Non ferrous metals

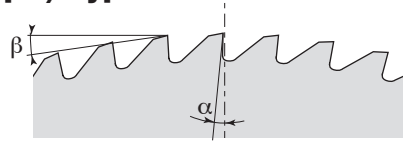
$\alpha = 3 \div 7^\circ$ $\beta = 10 \div 14^\circ$

Art. 0042 DIN 1838

Dentatura grossa
Large toothing



Tipo / Type B **DIN 1838**



Dentatura grossa - Large teeth

Per bronzo, ottone e simili

For bronze, brass and similar

$\alpha = 2 \div 5^\circ$ $\beta = 9 \div 12^\circ$

Per alluminio, rame, materie sintetiche

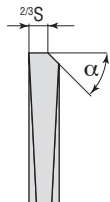
For aluminium copper and synthetic material

$\alpha = 6 \div 12^\circ$ $\beta = 10 \div 16^\circ$

Tipo / Type "C"

***Art. 0248 Dentatura stradata**
Alternating teeth

S = > 0.8



La stradatura alternata dei denti genera la continua interruzione del truciolo, favorendo così una maggior capacità di scarico. Ottima resa su acciaio inox e materiali pastosi.

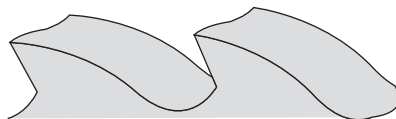
Alternating teeth make a continuous interruption of chip, favouring a greater releasing capacity.

Very good result on stainless steel and plastic material.

Tipo / Type "D"

***Art. 0249 Dentatura elicoidale**
Helicoidal teeth

S = > 2.2



Il dente elicoidale garantisce una asportazione omogenea e continua, eliminando così notevolmente le bavature residue. Consigliato soprattutto per ottenere buone finiture, lavorando con grossi spessori.

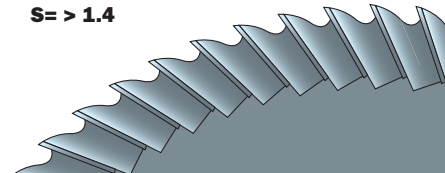
Helicoidal teeth guarantees an homogeneous and continuous removal, taking away in great quantity the remaining residue.

It's recommended specially to obtain good finishing, working with large thickness.

Tipo / Type "E"

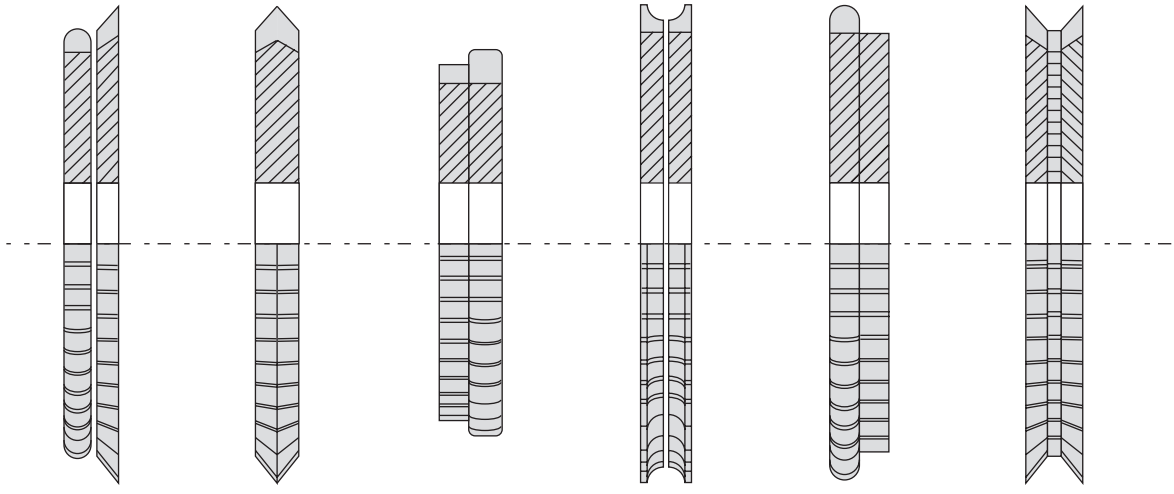
***Art. 0071 con tagli laterali**
with side edges (cuts)

S = > 1.4

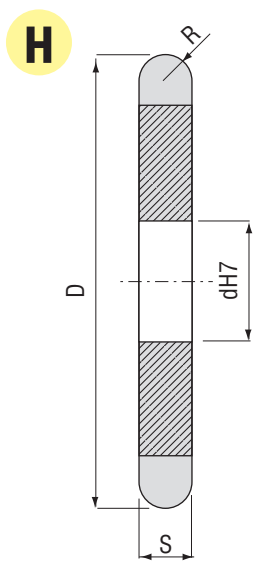
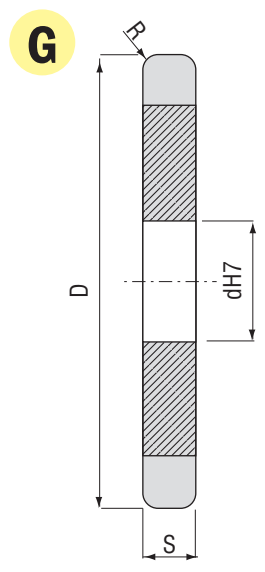
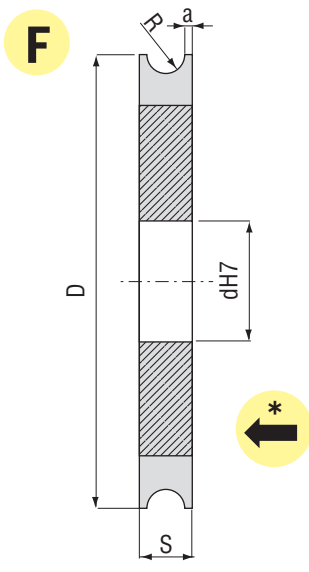
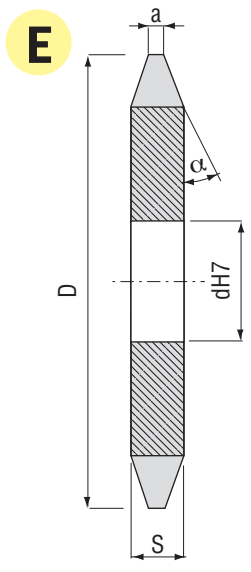
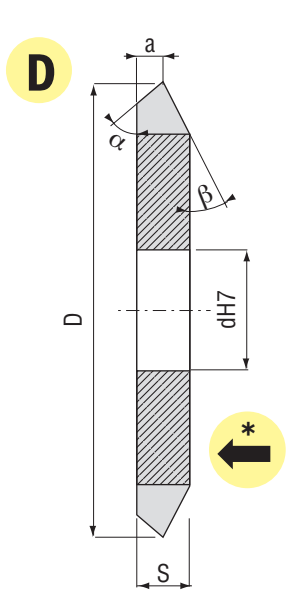
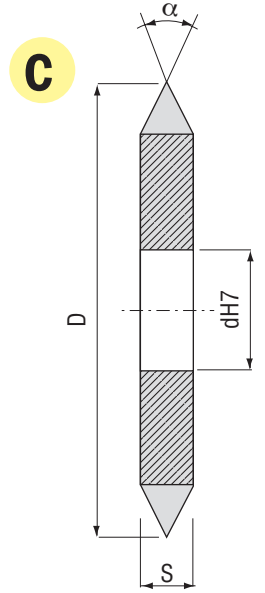
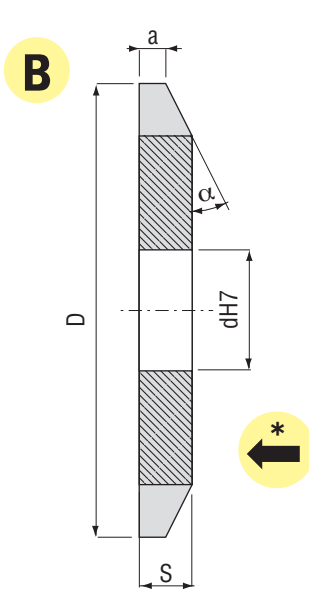
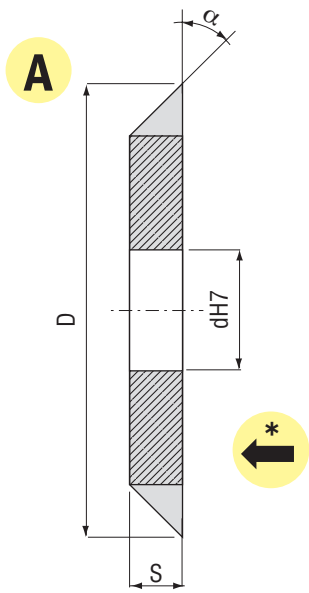


Gli scarichi laterali permettono di ottenere una buona finitura, senza rigature, anche in tagli profondi, riducendo al minimo l'attrito laterale.

The side cuts let obtain a good finishing, without lines, even in deep cut, reducing to a minimum the lateral friction.



Elementi indispensabili per richieste specifiche di profili
Essential sizes for requests of special shape



**Indicare senso di rotazione.*

**Indicate rotational direction.*