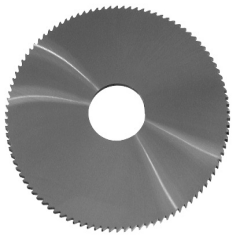
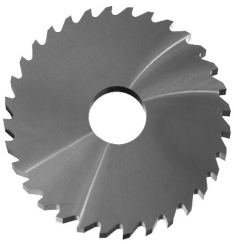
Manigley ITALIA

Seghe Circolari Metallo Duro

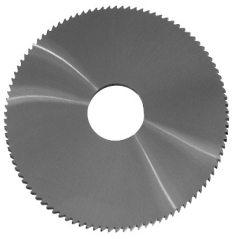
ZA HN®



ZAHN
Metallo Duro
art.1101
PAGINA 3-13



ZAHN
Metallo Duro
art.1102
PAGINA 14-22



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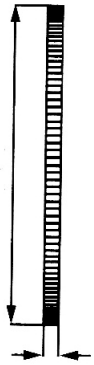
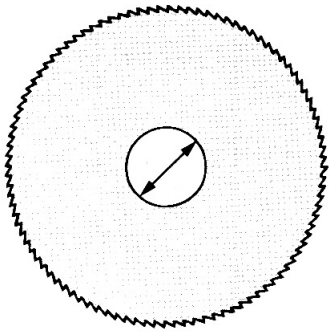
Metallo Duro
PARTE TECNICA
PAGINA 23

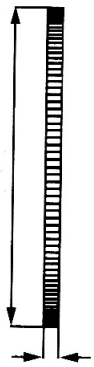


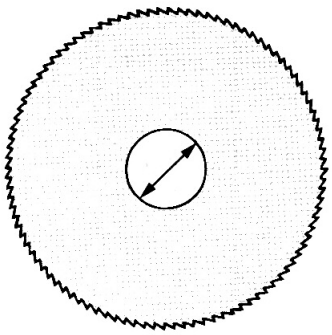


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
15	0,10	5	64	1E015010	
15	0,15	5	64	1E015015	
15	0,20	5	64	1E015020	
15	0,25	5	64	1E015025	
15	0,30	5	64	1E015030	
15	0,35	5	64	1E015035	
15	0,40	5	64	1E015040	
15	0,45	5	48	1E015045	
15	0,50	5	48	1E015050	
15	0,60	5	48	1E015060	
15	0,70	5	48	1E015070	
15	0,80	5	40	1E015080	
15	0.90	5	40	1E015090	
15	1,00	5	40	1E015100	
15	1,10	5	40	1E015110	
15	1,20	5	40	1E015120	
15	1,30	5	40	1E015130	
15	1,40	5	40	1E015140	
15	1,50	5	40	1E015150	
15	1,60	5	40	1E015160	
15	1,70	5	40	1E015170	
15	1,80	5	40	1E015180	
15	1,90	5	40	1E015190	
15	2,00	5	40	1E015200	
15	2,50	5	40	1E015250	
15	3,00	5	40	1E015300	
15	3,50	5	24	1E015350	
15	4,00	5	24	1E015400	
15	5,00	5	24	1E015500	
15	6,00	5	24	1E015600	

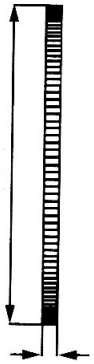


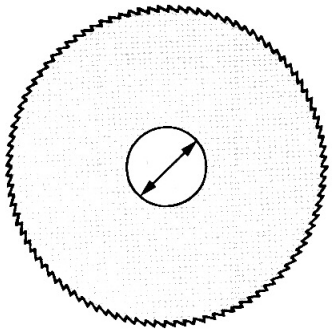


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
20	0,10	5	80	1E020010	
20	0,15	5	80	1E020015	
20	0,20	5	80	1E020020	
20	0,25	5	64	1E020025	
20	0,30	5	64	1E020030	
20	0,35	5	64	1E020035	
20	0,40	5	64	1E020040	
20	0,45	5	48	1E020045	
20	0,50	5	48	1E020050	
20	0,60	5	48	1E020060	
20	0,70	5	48	1E020070	
20	0,80	5	40	1E020080	
20	0.90	5	40	1E020090	
20	1,00	5	40	1E020100	
20	1,10	5	40	1E020110	
20	1,20	5	40	1E020120	
20	1,30	5	40	1E020130	
20	1,40	5	40	1E020140	
20	1,50	5	40	1E020150	
20	1,60	5	40	1E020160	
20	1,70	5	32	1E020170	
20	1,80	5	32	1E020180	
20	1,90	5	32	1E020190	
20	2,00	5	32	1E020200	
20	2,50	5	32	1E020250	
20	3,00	5	32	1E020300	
20	3,50	5	24	1E020350	
20	4,00	5	24	1E020400	
20	5,00	5	24	1E020500	
20	6,00	5	24	1E020600	

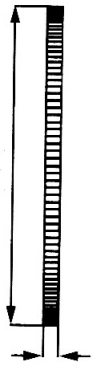


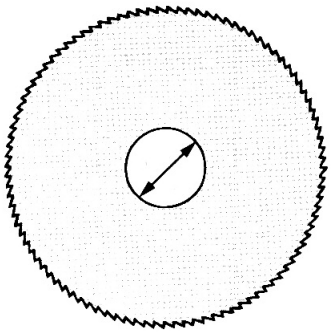


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
25	0,10	8	80	1E025010	
25	0,15	8	80	1E025015	
25	0,20	8	80	1E025020	
25	0,25	8	80	1E025025	
25	0,30	8	80	1E025030	
25	0,35	8	64	1E025035	
25	0,40	8	64	1E025040	
25	0,45	8	64	1E025045	
25	0,50	8	64	1E025050	
25	0,60	8	64	1E025060	
25	0,70	8	48	1E025070	
25	0,80	8	48	1E025080	
25	0.90	8	48	1E025090	
25	1,00	8	48	1E025100	
25	1,10	8	48	1E025110	
25	1,20	8	48	1E025120	
25	1,30	8	40	1E025130	
25	1,40	8	40	1E025140	
25	1,50	8	40	1E025150	
25	1,60	8	40	1E025160	
25	1,70	8	40	1E025170	
25	1,80	8	40	1E025180	
25	1,90	8	40	1E025190	
25	2,00	8	40	1E025200	
25	2,50	8	40	1E025250	
25	3,00	8	32	1E025300	
25	3,50	8	32	1E025350	
25	4,00	8	32	1E025400	
25	5,00	8	32	1E025500	
25	6,00	8	24	1E025600	

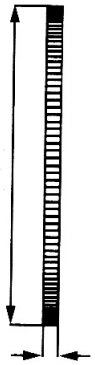


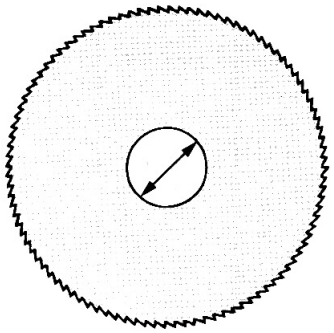


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
30	0,10	8	100	1E030010	
30	0,15	8	100	1E030015	
30	0,20	8	100	1E030020	
30	0,25	8	100	1E030025	
30	0,30	8	80	1E030030	
30	0,35	8	80	1E030035	
30	0,40	8	80	1E030040	
30	0,45	8	80	1E030045	
30	0,50	8	80	1E030050	
30	0,60	8	64	1E030060	
30	0,70	8	64	1E030070	
30	0,80	8	64	1E030080	
30	0.90	8	64	1E030090	
30	1,00	8	64	1E030100	
30	1,10	8	48	1E030110	
30	1,20	8	48	1E030120	
30	1,30	8	48	1E030130	
30	1,40	8	48	1E030140	
30	1,50	8	48	1E030150	
30	1,60	8	48	1E030160	
30	1,70	8	48	1E030170	
30	1,80	8	48	1E030180	
30	1,90	8	48	1E030190	
30	2,00	8	48	1E030200	
30	2,50	8	40	1E030250	
30	3,00	8	40	1E030300	
30	3,50	8	40	1E030350	
30	4,00	8	40	1E030400	
30	5,00	8	32	1E030500	
30	6,00	8	32	1E030600	

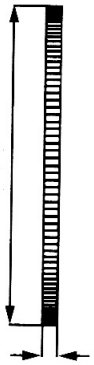


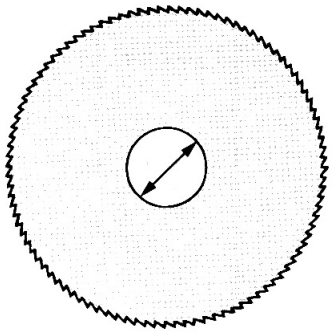


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
40	0,10	10	128	1E040010	
40	0,15	10	128	1E040015	
40	0,20	10	128	1E040020	
40	0,25	10	100	1E040025	
40	0,30	10	100	1E040030	
40	0,35	10	100	1E040035	
40	0,40	10	100	1E040040	
40	0,45	10	80	1E040045	
40	0,50	10	80	1E040050	
40	0,60	10	80	1E040060	
40	0,70	10	80	1E040070	
40	0,80	10	80	1E040080	
40	0.90	10	64	1E040090	
40	1,00	10	64	1E040100	
40	1,10	10	64	1E040110	
40	1,20	10	64	1E040120	
40	1,30	10	64	1E040130	
40	1,40	10	64	1E040140	
40	1,50	10	64	1E040150	
40	1,60	10	64	1E040160	
40	1,70	10	48	1E040170	
40	1,80	10	48	1E040180	
40	1,90	10	48	1E040190	
40	2,00	10	48	1E040200	
40	2,50	10	48	1E040250	
40	3,00	10	48	1E040300	
40	3,50	10	40	1E040350	
40	4,00	10	40	1E040400	
40	5,00	10	40	1E040500	
40	6,00	10	40	1E040600	

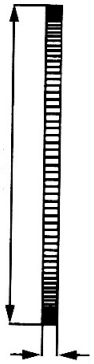


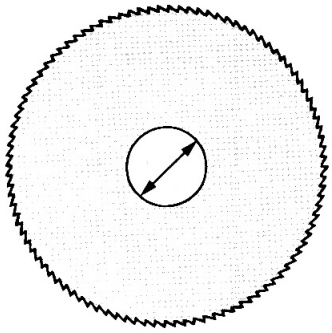


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
50	0,20	13	128	1E050020	
50	0,25	13	128	1E050025	
50	0,30	13	128	1E050030	
50	0,35	13	100	1E050035	
50	0,40	13	100	1E050040	
50	0,45	13	100	1E050045	
50	0,50	13	100	1E050050	
50	0,60	13	100	1E050060	
50	0,70	13	80	1E050070	
50	0,80	13	80	1E050080	
50	0.90	13	80	1E050090	
50	1,00	13	80	1E050100	
50	1,10	13	80	1E050110	
50	1,20	13	80	1E050120	
50	1,30	13	64	1E050130	
50	1,40	13	64	1E050140	
50	1,50	13	64	1E050150	
50	1,60	13	64	1E050160	
50	1,70	13	64	1E050170	
50	1,80	13	64	1E050180	
50	1,90	13	64	1E050190	
50	2,00	13	64	1E050200	
50	2,50	13	64	1E050250	
50	3,00	13	48	1E050300	
50	3,50	13	48	1E050350	
50	4,00	13	48	1E050400	
50	5,00	13	48	1E050500	
50	6,00	13	40	1E050600	

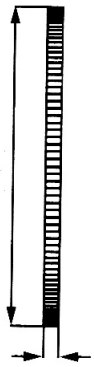


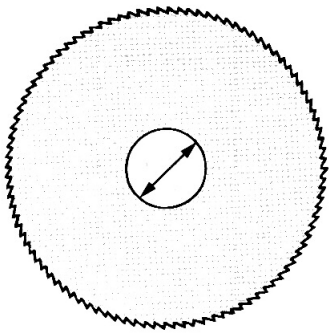


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
63	0,20	16	160	1E063020	
63	0,25	16	128	1E063025	
63	0,30	16	128	1E063030	
63	0,35	16	128	1E063035	
63	0,40	16	128	1E063040	
63	0,45	16	128	1E063045	
63	0,50	16	128	1E063050	
63	0,60	16	128	1E063060	
63	0,70	16	100	1E063070	
63	0,80	16	100	1E063080	
63	0.90	16	100	1E063090	
63	1,00	16	100	1E063100	
63	1,10	16	80	1E063110	
63	1,20	16	80	1E063120	
63	1,30	16	80	1E063130	
63	1,40	16	80	1E063140	
63	1,50	16	80	1E063150	
63	1,60	16	80	1E063160	
63	1,70	16	80	1E063170	
63	1,80	16	80	1E063180	
63	1,90	16	80	1E063190	
63	2,00	16	80	1E063200	
63	2,50	16	64	1E063250	
63	3,00	16	64	1E063300	
63	3,50	16	64	1E063350	
63	4,00	16	64	1E063400	
63	5,00	16	48	1E063500	
63	6,00	16	48	1E063600	

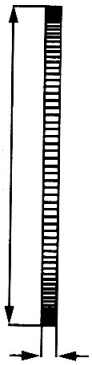


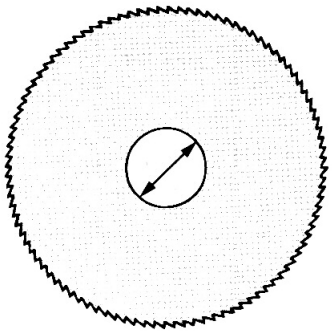


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
80	0,25	22	160	1E080025	
80	0,30	22	160	1E080030	
80	0,35	22	160	1E080035	
80	0,40	22	160	1E080040	
80	0,45	22	128	1E080045	
80	0,50	22	128	1E080050	
80	0,60	22	128	1E080060	
80	0,70	22	128	1E080070	
80	0,80	22	128	1E080080	
80	0.90	22	100	1E080090	
80	1,00	22	100	1E080100	
80	1,10	22	100	1E080110	
80	1,20	22	100	1E080120	
80	1,30	22	100	1E080130	
80	1,40	22	100	1E080140	
80	1,50	22	100	1E080150	
80	1,60	22	100	1E080160	
80	1,70	22	80	1E080170	
80	1,80	22	80	1E050180	
80	1,90	22	80	1E080190	
80	2,00	22	80	1E080200	
80	2,50	22	80	1E080250	
80	3,00	22	80	1E080300	
80	3,50	22	64	1E080350	
80	4,00	22	64	1E080400	
80	5,00	22	64	1E080500	
80	6,00	22	64	1E080600	

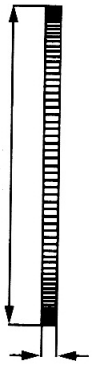


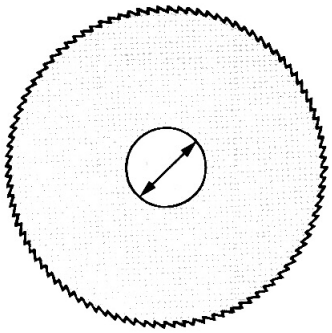


Dentatura A

art.**1101** HM

Diametro	Spessore	Foro	Denti	art.	
100	0,50	22	160	1E100050	
100	0,60	22	160	1E100060	
100	0,70	22	128	1E100070	
100	0,80	22	128	1E100080	
100	0.90	22	128	1E100090	
100	1,00	22	128	1E100100	
100	1,10	22	128	1E100110	
100	1,20	22	128	1E100120	
100	1,30	22	100	1E100130	
100	1,40	22	100	1E100140	
100	1,50	22	100	1E100150	
100	1,60	22	100	1E100160	
100	1,70	22	100	1E100170	
100	1,80	22	100	1E100180	
100	1,90	22	100	1E100190	
100	2,00	22	100	1E100200	
100	2,50	22	100	1E100250	
100	3,00	22	80	1E100300	
100	3,50	22	80	1E100350	
100	4,00	22	80	1E100400	
100	5,00	22	80	1E100500	
100	6,00	22	64	1E100600	





Dentatura A

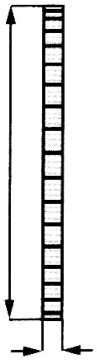
art.**1101** HM

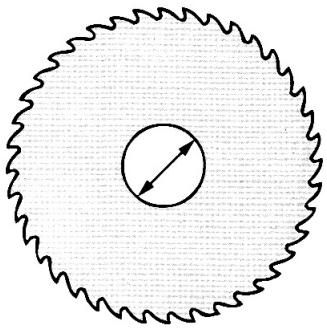
Diametro	Spessore	Foro	Denti	art.	
125	0,60	22	160	1E125060	
125	0,70	22	160	1E125070	
125	0,80	22	160	1E125080	
125	0,90	22	160	1E125090	
125	1,00	22	160	1E125100	
125	1,10	22	128	1E125110	
125	1,20	22	128	1E125120	
125	1,40	22	128	1E125140	
125	1,50	22	128	1E125150	
125	1,60	22	128	1E125160	
125	1,80	22	128	1E125180	
125	2,00	22	128	1E125200	
125	2,50	22	100	1E125250	
125	3,00	22	100	1E125300	
125	3,50	22	100	1E125350	
125	4,00	22	100	1E125400	
125	5,00	22	100	1E125500	
125	6,00	22	100	1E125600	

Diametro	Spessore	Foro	Denti	art.	
150	1,00	32	150	1E150100	
150	1,10	32	150	1E150110	
150	1,20	32	150	1E150120	
150	1,40	32	150	1E150140	
150	1,50	32	150	1E150150	
150	1,60	32	150	1E150160	
150	1,80	32	128	1E150180	
150	2,00	32	128	1E150200	
150	2,50	32	128	1E150250	
150	3,00	32	128	1E150300	
150	3,50	32	100	1E150350	
150	4,00	32	100	1E150400	

Diametro	Spessore	Foro	Denti	art.	
160	1,00	32	160	1E160100	
160	1,10	32	160	1E160110	
160	1,20	32	160	1E160120	
160	1,40	32	160	1E160140	
160	1,50	32	160	1E160150	
160	1,60	32	160	1E160160	
160	1,80	32	128	1E160180	
160	2,00	32	128	1E160200	
160	2,50	32	128	1E160250	
160	3,00	32	128	1E160300	
160	3,50	32	100	1E160350	
160	4,00	32	100	1E160400	

Diametro	Spessore	Foro	Denti	art.	
200	1,20	32	200	1E200120	
200	1,50	32	160	1E200150	
200	1,60	32	160	1E200160	
200	1,80	32	160	1E200180	
200	2,00	32	160	1E200200	
200	2,50	32	160	1E200250	
200	3,00	32	128	1E200300	
200	4,00	32	128	1E200400	

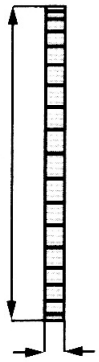


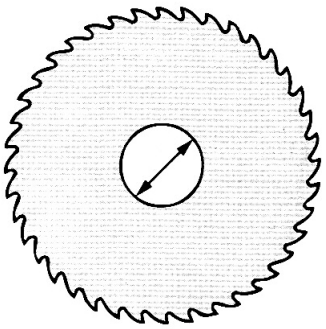


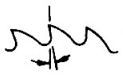
Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
15	0,20	5	20	1F015020	
15	0,25	5	20	1F015025	
15	0,30	5	20	1F015030	
15	0,40	5	20	1F015040	
15	0,50	5	20	1F015050	
15	0,60	5	20	1F015060	
15	0,70	5	20	1F015070	
15	0,80	5	20	1F015080	
15	0,90	5	20	1F015090	
15	1,00	5	20	1F015100	
15	1,20	5	20	1F015120	
15	1,50	5	20	1F015150	
15	1,60	5	20	1F015160	
15	1,80	5	20	1F015180	
15	2,00	5	20	1F015200	
15	2,50	5	20	1F015250	
15	3,00	5	20	1F015300	
15	4,00	5	20	1F015400	
15	5,00	5	20	1F015500	
15	6,00	5	20	1F015600	



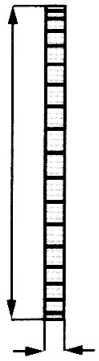


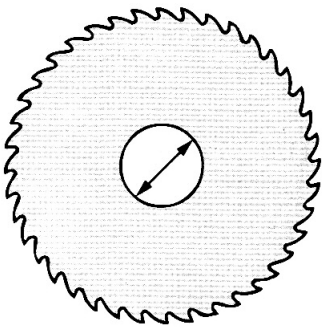


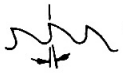
Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
20	0,20	5	20	1F020020	
20	0,25	5	20	1F020025	
20	0,30	5	20	1F020030	
20	0,40	5	20	1F020040	
20	0,50	5	20	1F020050	
20	0,60	5	20	1F020060	
20	0,70	5	20	1F020070	
20	0,80	5	20	1F020080	
20	0,90	5	20	1F020090	
20	1,00	5	20	1F020100	
20	1,20	5	20	1F020120	
20	1,50	5	20	1F020150	
20	1,60	5	20	1F020160	
20	1,80	5	20	1F020180	
20	2,00	5	20	1F020200	
20	2,50	5	20	1F020250	
20	3,00	5	20	1F020300	
20	4,00	5	20	1F020400	
20	5,00	5	20	1F020500	
20	6,00	5	20	1F020600	



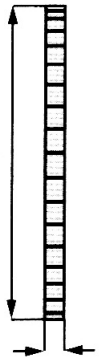


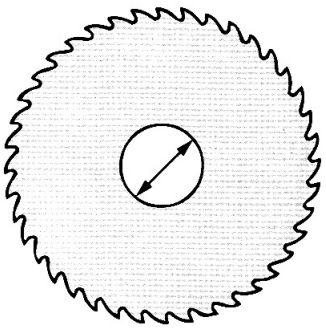


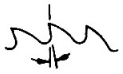
Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
25	0,20	8	20	1F025020	
25	0,25	8	20	1F025025	
25	0,30	8	20	1F025030	
25	0,40	8	20	1F025040	
25	0,50	8	20	1E025050	
25	0,60	8	20	1F025060	
25	0,70	8	20	1F025070	
25	0,80	8	20	1F025080	
25	0,90	8	20	1F025090	
25	1,00	8	20	1F025100	
25	1,20	8	20	1F025120	
25	1,50	8	20	1F025150	
25	1,60	8	20	1F025160	
25	1,80	8	20	1F025180	
25	2,00	8	20	1F025200	
25	2,50	8	20	1F025250	
25	3,00	8	20	1F025300	
25	4,00	8	20	1F025400	
25	5,00	8	20	1F025500	
25	6,00	8	20	1F025600	



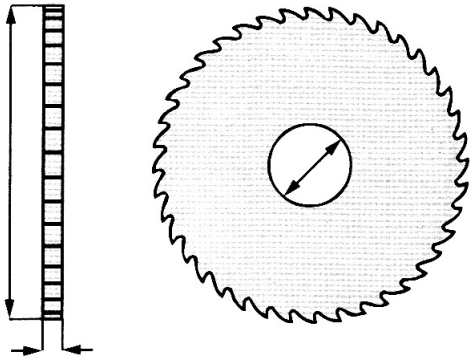




Dentatura B

art.**1102** HM

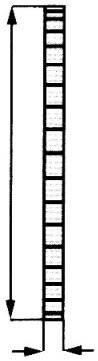
Diametro	Spessore	Foro	Denti	art.	
30	0,20	8	30	1F030020	
30	0,25	8	30	1F030025	
30	0,30	8	30	1F030030	
30	0,40	8	30	1F030040	
30	0,50	8	30	1F030050	
30	0,60	8	30	1F030060	
30	0,70	8	30	1F030070	
30	0,80	8	24	1F030080	
30	0,90	8	24	1F030090	
30	1,00	8	24	1F030100	
30	1,20	8	24	1F030120	
30	1,50	8	24	1F030150	
30	1,60	8	24	1F030160	
30	1,80	8	24	1F030180	
30	2,00	8	24	1F030200	
30	2,50	8	24	1F030250	
30	3,00	8	24	1F030300	
30	4,00	8	24	1F030400	
30	5,00	8	24	1F030500	
30	6,00	8	24	1F030600	

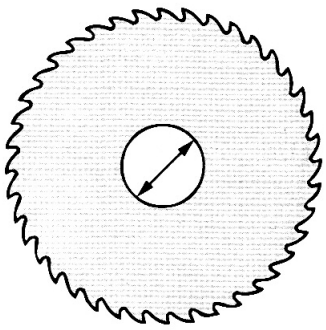


Dentatura B

art.**1102** HM

Diametro	SpessorE	Foro	Denti	art.	
40	0,20	10	40	1F040020	
40	0,25	10	40	1F040025	
40	0,30	10	40	1F040030	
40	0,40	10	40	1F040040	
40	0,50	10	40	1F040050	
40	0,60	10	40	1F040060	
40	0,70	10	40	1F040070	
40	0,80	10	32	1F040080	
40	0,90	10	32	1F040090	
40	1,00	10	32	1F040100	
40	1,20	10	32	1F040120	
40	1,50	10	32	1F040150	
40	1,60	10	32	1F040160	
40	1,80	10	24	1F040180	
40	2,00	10	24	1F040200	
40	2,50	10	24	1F040250	
40	3,00	10	24	1F040300	
40	4,00	10	20	1F040400	
40	5,00	10	20	1F040500	
40	6,00	10	20	1F040600	

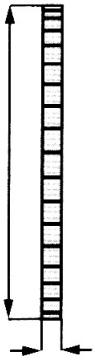


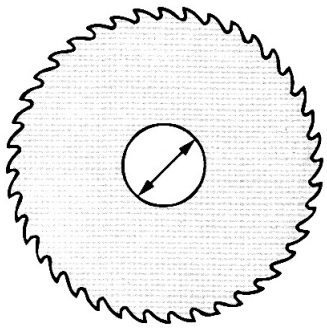


Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
50	0,40	13	48	1F050040	
50	0,50	13	48	1F050050	
50	0,60	13	48	1F050060	
50	0,70	13	40	1F050070	
50	0,80	13	40	1F050080	
50	0,90	13	40	1F050090	
50	1,00	13	40	1F050100	
50	1,20	13	40	1F050120	
50	1,50	13	32	1F050150	
50	1,60	13	32	1F050160	
50	1,80	13	32	1F050180	
50	2,00	13	32	1F050200	
50	2,50	13	32	1F050250	
50	3,00	13	24	1F050300	
50	4,00	13	24	1F050400	
50	5,00	13	24	1F050500	
50	6,00	13	20	1F050600	

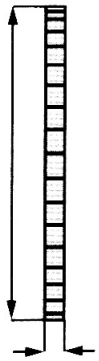


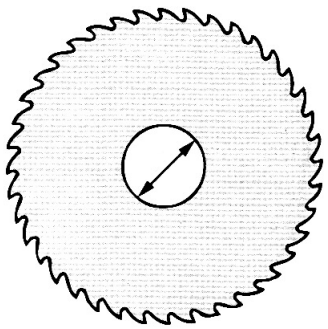


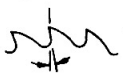
Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
63	0,40	16	64	1F063040	
63	0,50	16	64	1F063050	
63	0,60	16	48	1F063060	
63	0,70	16	48	1F063070	
63	0,80	16	48	1F063080	
63	0,90	16	48	1F063090	
63	1,00	16	48	1F063100	
63	1,20	16	40	1F063120	
63	1,50	16	40	1F063150	
63	1,60	16	40	1F063160	
63	1,80	16	40	1F063180	
63	2,00	16	40	1F063200	
63	2,50	16	32	1F063250	
63	3,00	16	32	1F063300	
63	4,00	16	32	1F063400	
63	5,00	16	24	1F063500	
63	6,00	16	24	1F063600	



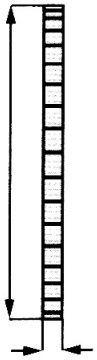


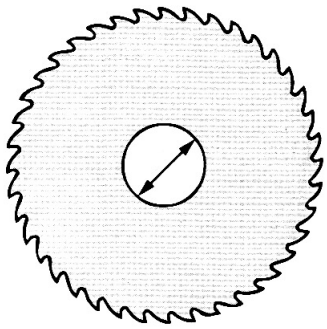


Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
80	0,60	22	64	1F080060	
80	0,70	22	64	1F080070	
80	0,80	22	64	1F080080	
80	0,90	22	48	1F080090	
80	1,00	22	48	1F080100	
80	1,20	22	48	1F080120	
80	1,50	22	48	1F080150	
80	1,60	22	48	1F080160	
80	1,80	22	40	1F050180	
80	2,00	22	40	1F080200	
80	2,50	22	40	1F080250	
80	3,00	22	40	1F080300	
80	4,00	22	32	1F080400	
80	5,00	22	32	1F080500	
80	6,00	22	32	1F080600	





Dentatura B

art.**1102** HM

Diametro	Spessore	Foro	Denti	art.	
100	0,60	22	80	1F100060	
100	0,70	22	64	1F100070	
100	0,80	22	64	1F100080	
100	0,90	22	64	1F100090	
100	1,00	22	64	1F100100	
100	1,20	22	64	1F100120	
100	1,50	22	48	1F100150	
100	1,60	22	48	1F100160	
100	1,80	22	48	1F100180	
100	2,00	22	48	1F100200	
100	2,50	22	48	1F100250	
100	3,00	22	40	1F100300	
100	4,00	22	40	1F100400	
100	5,00	22	40	1F100500	
100	6,00	22	32	1F100600	
125	0,80	22	80	1F125080	
125	0,90	22	80	1F125090	
125	1,00	22	80	1F125100	
125	1,20	22	64	1F125120	
125	1,50	22	64	1F125150	
125	1,60	22	64	1F125160	
125	1,80	22	64	1F125180	
125	2,00	22	64	1F125200	
125	2,50	22	48	1F125250	
125	3,00	22	48	1F125300	
125	4,00	22	48	1F125400	
125	5,00	22	40	1F125500	
125	6,00	22	40	1F125600	

Materiale	Velocità di taglio m/min	Lubrificazione	Dentatura / avanzamento
Acciai automatici	120-240	Olio/ Emulsione	Articolo **1101**: Per lavorazioni profonde oppure scanalature corte. Avanzamento al dente: *0,005-0,05*
Acciai < 600 N/mm²	100-200	Olio/ Emulsione	
Acciai < 800 N/mm²	80-160	Olio/ Emulsione	
Acciai < 1000 N/mm²	60-120	Olio/ Emulsione	
Acciai >1000 N/mm²	40-80	Olio/ Emulsione	
Acciai inossidabili	50-100	Olio/ Emulsione	
Acciai refrattari	25-60	Olio/ Emulsione	
Ghisa	60-120	Secco/ Emulsione	Articolo **1102**: Per lavorazioni profonde oppure scanalature lunghe. Avanzamento al dente: *0,01-0,1*
Alluminio Si<12%	150-600	Olio/ Emulsione	
Alluminio Si>12%	80-300	Olio/ Emulsione	
Titanio	30-60	Olio/ Emulsione	
Rame, Ottone, Bronzo	80-300	Secco/Olio/ Emulsione	
Polimeri termoplastici	200-700	Secco	
Polimeri Termoindurenti	150-600	Secco	

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