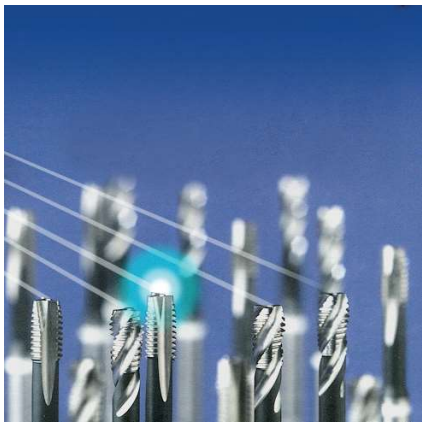
Gnutti Bortolo



REPARTO 1

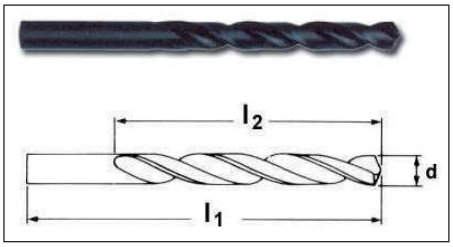
1 - 166

UTENSILI DA TAGLIO

PUNTE
MASCHI
FRESE
ALESATORI
LIME
SEGHE
INSERTI

Punta corta HSS, DIN 338, elica Std.
HSS jobber drill, DIN 338, Std. helix

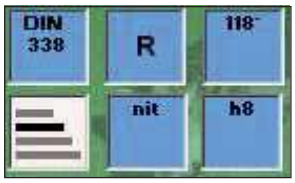
Art. 11101 CLEVELAND



Descrizione:
Punta elicoidale corta HSS nitrurata, DIN 338, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciaio e ghisa.

HSS nitrided jobber drill, DIN 338, Standard helix. General purpose drill for steel and cast iron.

Cod. Fornitore: **2003**
Manufacturer code: **2003**



ART. 11101

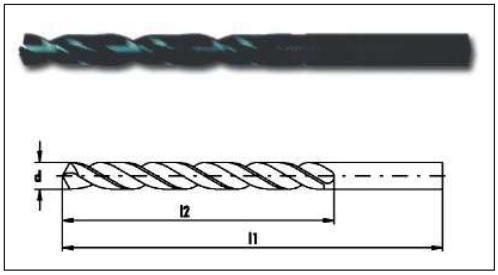
Dati tecnici / Technical data

cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]	cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]	cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]
11101123	**1,00**	34	12	11101295	**4,20**	75	43	11101459	**7,50**	109	69
11101127	**1,10**	36	14	11101299	**4,25**	75	43	11101463	**7,60**	117	75
11101131	**1,20**	38	16	11101303	**4,30**	80	47	11101467	**7,70**	117	75
11101135	**1,25**	38	16	11101307	**4,40**	80	47	11101475	**7,80**	117	75
11101139	**1,30**	38	16	11101315	**4,50**	80	47	11101479	**7,90**	117	75
11101143	**1,40**	40	18	11101319	**4,60**	80	47	11101483	**8,00**	117	75
11101147	**1,50**	40	18	11101323	**4,70**	80	47	11101491	**8,10**	117	75
11101151	**1,60**	43	20	11101331	**4,80**	86	52	11101499	**8,20**	117	75
11101155	**1,70**	43	20	11101335	**4,90**	86	52	11101507	**8,30**	117	75
11101159	**1,75**	46	22	11101339	**5,00**	86	52	11101511	**8,40**	117	75
11101163	**1,80**	46	22	11101343	**5,10**	86	52	11101515	**8,50**	117	75
11101167	**1,90**	46	22	11101347	**5,20**	86	52	11101519	**8,60**	125	81
11101175	**2,00**	49	24	11101355	**5,30**	86	52	11101523	**8,70**	125	81
11101183	**2,10**	49	24	11101359	**5,40**	93	57	11101531	**8,80**	125	81
11101187	**2,20**	53	27	11101363	**5,50**	93	57	11101535	**8,90**	125	81
11101191	**2,25**	53	27	11101367	**5,60**	93	57	11101539	**9,00**	125	81
11101195	**2,30**	53	27	11101371	**5,70**	93	57	11101543	**9,10**	125	81
11101199	**2,40**	57	30	11101379	**5,80**	93	57	11101547	**9,20**	125	81
11101203	**2,50**	57	30	11101383	**5,90**	93	57	11101555	**9,30**	125	81
11101211	**2,60**	57	30	11101387	**6,00**	93	57	11101559	**9,40**	125	81
11101215	**2,70**	61	33	11101391	**6,10**	101	63	11101563	**9,50**	125	81
11101223	**2,80**	61	33	11101395	**6,20**	101	63	11101567	**9,60**	133	87
11101227	**2,90**	61	33	11101399	**6,25**	101	63	11101571	**9,70**	133	87
11101231	**3,00**	61	33	11101403	**6,30**	101	63	11101575	**9,75**	133	87
11101235	**3,10**	65	36	11101407	**6,40**	101	63	11101579	**9,80**	133	87
11101239	**3,20**	65	36	11101411	**6,50**	101	63	11101583	**9,90**	133	87
11101247	**3,30**	65	36	11101415	**6,60**	101	63	11101587	**10,00**	133	87
11101251	**3,40**	70	39	11101419	**6,70**	101	63	11101599	**10,20**	133	87
11101255	**3,50**	70	39	11101427	**6,80**	109	69	11101615	**10,50**	133	87
11101259	**3,60**	70	39	11101431	**6,90**	109	69	11101639	**11,00**	142	94
11101263	**3,70**	70	39	11101435	**7,00**	109	69	11101651	**11,25**	142	94
11101271	**3,80**	75	43	11101439	**7,10**	109	69	11101663	**11,50**	142	94
11101275	**3,90**	75	43	11101443	**7,20**	109	69	11101687	**12,00**	151	101
11101283	**4,00**	75	43	11101451	**7,30**	109	69	11101711	**12,50**	151	101
11101291	**4,10**	75	43	11101455	**7,40**	109	69	11101735	**13,00**	151	101

Punta corta HSS, DIN 338, elica Std.
HSS jobber drill, DIN 338, Std. helix

Art. 11105 HARTNER

Cod. Fornitore: **81010**
Manufacturer code: **81010**



Descrizione:
Punta elicoidale corta HSS nitrurata, DIN 338, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciao e ghisa.

HSS nitrided jobber drill, DIN 338, Standard helix. General purpose drill for steel and cast iron.

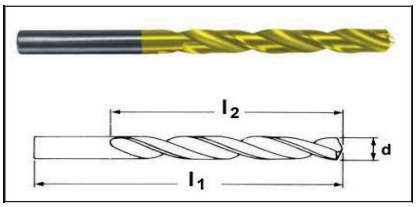
ART. 11105

Dati tecnici / Technical data

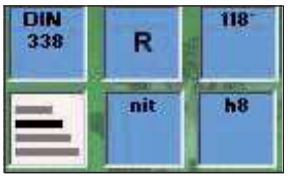
cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]	cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]	cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]	cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]
11105007	**0,30**	19	3	11105271	**3,80**	75	43	11105463	**7,60**	117	75	11105667	**11,60**	142	94
11105015	**0,40**	20	5	11105275	**3,90**	75	43	11105467	**7,70**	117	75	11105671	**11,70**	142	94
11105027	**0,50**	22	6	11105283	**4,00**	75	43	11105471	**7,75**	117	75	11105675	**11,75**	142	94
11105035	**0,55**	24	7	11105291	**4,10**	75	43	11105475	**7,80**	117	75	11105679	**11,80**	142	94
11105043	**0,60**	24	7	11105295	**4,20**	75	43	11105479	**7,90**	117	75	11105683	**11,90**	151	101
11105055	**0,65**	26	8	11105299	**4,25**	75	43	11105483	**8,00**	117	75	11105687	**12,00**	151	101
11105067	**0,70**	28	9	11105303	**4,30**	80	47	11105491	**8,10**	117	75	11105691	**12,10**	151	101
11105079	**0,75**	28	9	11105307	**4,40**	80	47	11105499	**8,20**	117	75	11105695	**12,20**	151	101
11105087	**0,80**	30	10	11105315	**4,50**	80	47	11105503	**8,25**	117	75	11105699	**12,25**	151	101
11105095	**0,85**	30	10	11105319	**4,60**	80	47	11105507	**8,30**	117	75	11105703	**12,30**	151	101
11105103	**0,90**	32	11	11105323	**4,70**	80	47	11105511	**8,40**	117	75	11105707	**12,40**	151	101
11105115	**0,95**	32	11	11105327	**4,75**	80	47	11105515	**8,50**	117	75	11105711	**12,50**	151	101
11105123	**1,00**	34	12	11105331	**4,80**	86	52	11105519	**8,60**	125	81	11105715	**12,60**	151	101
11106127	**1,10**	36	14	11105335	**4,90**	86	52	11105523	**8,70**	125	81	11105719	**12,70**	151	101
11105131	**1,20**	38	16	11105339	**5,00**	86	52	11105527	**8,75**	125	81	11105723	**12,75**	151	101
11105139	**1,30**	38	16	11105343	**5,10**	86	52	11105531	**8,80**	125	81	11105727	**12,80**	151	101
11105143	**1,40**	40	18	11105347	**5,20**	86	52	11105535	**8,90**	125	81	11105731	**12,90**	151	101
11105147	**1,50**	40	18	11105351	**5,25**	86	52	11105539	**9,00**	125	81	11105735	**13,00**	151	101
11105151	**1,60**	43	20	11105355	**5,30**	86	52	11105543	**9,10**	125	81	11105739	**13,10**	151	101
11105155	**1,70**	43	20	11105359	**5,40**	93	57	11105547	**9,20**	125	81	11105743	**13,20**	151	101
11105163	**1,80**	46	22	11105363	**5,50**	93	57	11105551	**9,25**	125	81	11105747	**13,25**	160	108
11105167	**1,90**	46	22	11105367	**5,60**	93	57	11105555	**9,30**	125	81	11105751	**13,30**	160	108
11105175	**2,00**	49	24	11105371	**5,70**	93	57	11105559	**9,40**	125	81	11105759	**13,50**	160	108
11105183	**2,10**	49	24	11105375	**5,75**	93	57	11105563	**9,50**	125	81	11105763	**13,60**	160	108
11105187	**2,20**	53	27	11105379	**5,80**	93	57	11105567	**9,60**	133	87	11105767	**13,70**	160	108
11105191	**2,25**	53	27	11105383	**5,90**	93	57	11105559	**9,70**	133	87	11105771	**13,75**	160	108
11105195	**2,30**	53	27	11105387	**6,00**	93	57	11105579	**9,80**	133	87	11105775	**13,80**	160	108
11105199	**2,40**	57	30	11105391	**6,10**	101	63	11105583	**9,90**	133	87	11105779	**13,90**	160	108
11105203	**2,50**	57	30	11105395	**6,20**	101	63	11105587	**10,00**	133	87	11105783	**14,00**	160	108
11105207	**2,55**	57	30	11105399	**6,25**	101	63	11105595	**10,10**	133	87	11105787	**14,25**	169	114
11105211	**2,60**	57	30	11105403	**6,30**	101	63	11105599	**10,20**	133	87	11105791	**14,50**	169	114
11105215	**2,70**	61	33	11105407	**6,40**	101	63	11105603	**10,25**	133	87	11105795	**14,75**	169	114
11105219	**2,75**	61	33	11105411	**6,50**	101	63	11105607	**10,30**	133	87	11105799	**15,00**	169	114
11105223	**2,80**	61	33	11105415	**6,60**	101	63	11105611	**10,40**	133	87	11105803	**15,25**	178	120
11105227	**2,90**	61	33	11105419	**6,70**	101	63	11105615	**10,50**	133	87	11105807	**15,50**	178	120
11105231	**3,00**	61	33	11105423	**6,75**	109	69	11105619	**10,60**	133	87	11105811	**15,75**	178	120
11105235	**3,10**	65	36	11105427	**6,80**	109	69	11105623	**10,70**	142	94	11105815	**16,00**	178	120
11105239	**3,20**	65	36	11105431	**6,90**	109	69	11105627	**10,75**	142	94	11105819	**16,50**	184	125
11105243	**3,25**	65	36	11105435	**7,00**	109	69	11105631	**10,80**	142	94	11105823	**17,00**	184	125
11105247	**3,30**	65	36	11105439	**7,10**	109	69	11105635	**10,90**	142	94	11105827	**17,50**	191	130
11105251	**3,40**	70	39	11105443	**7,20**	109	69	11105639	**11,00**	142	94	11105831	**18,00**	191	130
11105255	**3,50**	70	39	11105447	**7,25**	109	69	11105643	**11,10**	142	94	11105835	**18,50**	198	135
11105259	**3,60**	70	39	11105451	**7,30**	109	69	11105647	**11,20**	142	94	11105839	**19,00**	198	135
11105263	**3,70**	70	39	11105455	**7,40**	109	69	11105655	**11,30**	142	94	11105843	**19,50**	205	140
11105267	**3,75**	70	39	11105459	**7,50**	109	69	11105659	**11,40**	142	94	11105847	**20,00**	205	140
								11105663	**11,50**	142	94				

Punta corta HSS, DIN 338, ricoperta TiN, elica Std
HSS jobber drill, DIN 338, TiN coated, Std. helix

Art. 11108 HARTNER



Cod. Fornitore: **84405**
Manufacturer code: **84405**



Descrizione:
Punta elicoidale corta HSS, ricoperta TiN, DIN 338, codolo cilindrico, elica Standard.
Punta di utilizzo generale per acciai e acciai fusi, legati e non legati, ghise grige e sferoidali, metalli sinterizzati, alpacca, grafite.

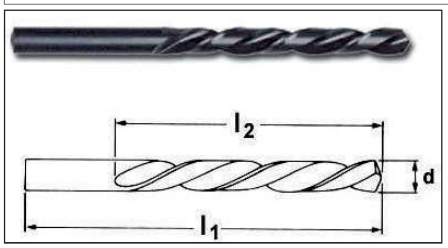
HSS jobber drill, DIN 338, TiN coated, Standard XT helix. Standard drill for steel and cast steel, alloyed and unalloyed, gret cast iron, spheroidal iron, sintered powder metal, German silver, graphite.

ART. 11108
Dati tecnici / Technical data

cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]	cod. code	d h8 [mm]	l_1 [mm]	l_2 [mm]
11108045	**2,00**	49	24	11108325	**5,50**	93	57
11108061	**2,20**	53	27	11108365	**6,00**	93	57
11108077	**2,40**	57	30	11108373	**6,10**	101	63
11108085	**2,50**	57	30	11108389	**6,30**	101	63
11108093	**2,60**	57	30	11108405	**6,50**	101	63
11108101	**2,70**	61	33	11108445	**7,00**	109	69
11108117	**2,90**	61	33	11108485	**7,50**	109	69
11108125	**3,00**	61	33	11108516	**7,80**	117	75
11108141	**3,20**	65	36	11108525	**8,00**	117	75
11108149	**3,30**	65	36	11108533	**8,10**	117	75
11108165	**3,50**	70	39	11108565	**8,50**	117	75
11108173	**3,60**	70	39	11108605	**9,00**	125	81
11108205	**4,00**	75	43	11108645	**9,50**	125	81
11108213	**4,10**	75	43	11108685	**10,00**	133	87
11108221	**4,20**	75	43	11108693	**10,20**	133	87
11108229	**4,30**	80	47	11108699	**10,50**	133	87
11108245	**4,50**	80	47	11108733	**11,50**	142	94
11108277	**4,90**	86	52	11108741	**11,80**	142	94
11108285	**5,00**	86	52	11108749	**12,00**	151	101
11108293	**5,10**	86	52	11108757	**12,20**	151	101
11108301	**5,20**	86	52	11108765	**12,50**	151	101
11108309	**5,30**	86	52	11108773	**13,00**	151	101

Punta corta sinistrorsa HSS, DIN 338, elica Std.
HSS jobber drill, left-hand cutting, DIN 338, Std. helix

Art. 11115 HARTNER



Descrizione:
Punta elicoidale corta sinistrorsa HSS nitrurata, DIN 338, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciao e ghisa.

HSS nitrided jobber drill, left-hand cutting, DIN 338, Standard helix. General purpose drill for steel and cast iron.

Cod. Fornitore:**81015**
Manufacturer code: **81015**

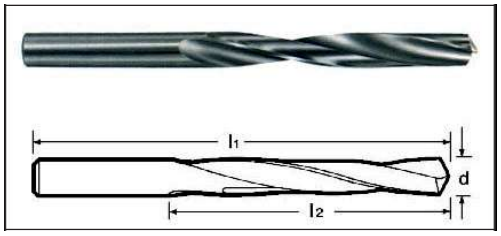
ART. 11115
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11115027	**1,50**	40	18	11115177	**5,60**	93	57	11115317	**8,40**	117	75
11115032	**2,00**	49	24	11115187	**5,80**	93	57	11115322	**8,50**	117	75
11115037	**2,40**	57	30	11115192	**5,90**	93	57	11115332	**8,70**	125	81
11115042	**2,50**	57	30	11115197	**6,00**	93	57	11115337	**8,80**	125	81
11115047	**3,00**	61	33	11115202	**6,10**	101	63	11115342	**8,90**	125	81
11115052	**3,10**	65	36	11115207	**6,20**	101	63	11115347	**9,00**	125	81
11115057	**3,20**	65	36	11115212	**6,30**	101	63	11115352	**9,10**	125	81
11115062	**3,30**	65	36	11115222	**6,50**	101	63	11115367	**9,40**	125	81
11115067	**3,40**	70	39	11115227	**6,60**	101	63	11115372	**9,50**	125	81
11115072	**3,50**	70	39	11115230	**6,70**	101	63	11115377	**9,60**	133	87
11115077	**3,60**	70	39	11115237	**6,80**	109	69	11115382	**9,70**	133	87
11115082	**3,70**	70	39	11115242	**6,90**	109	69	11115387	**9,80**	133	87
11115087	**3,80**	75	43	11115247	**7,00**	109	69	11115392	**9,90**	133	87
11115092	**3,90**	75	43	11115252	**7,10**	109	69	11115397	**10,00**	133	87
11115097	**4,00**	75	43	11115257	**7,20**	109	69	11115402	**10,10**	133	87
11115105	**4,20**	75	43	11115262	**7,30**	109	69	11115407	**10,20**	133	87
11115117	**4,40**	80	47	11115267	**7,40**	109	69	11115412	**10,30**	133	87
11115122	**4,50**	80	47	11115272	**7,50**	109	69	11115422	**10,50**	133	87
11115127	**4,60**	80	47	11115277	**7,60**	117	75	11115447	**11,00**	142	94
11115132	**4,70**	80	47	11115282	**7,70**	117	75	11115472	**11,50**	142	94
11115137	**4,80**	86	52	11115287	**7,80**	117	75	11115482	**11,70**	142	94
11115142	**4,90**	86	52	11115292	**7,90**	117	75	11115497	**12,00**	151	101
11115147	**5,00**	86	52	11115297	**8,00**	117	75	11115547	**13,00**	151	101
11115152	**5,10**	86	52	11115302	**8,10**	117	75	11115567	**15,00**	169	114
11115172	**5,50**	93	57	11115307	**8,20**	117	75	11115572	**16,00**	178	120

Punta corta HSS, DIN 338, elica L per ottone
HSS jobber drill, DIN 338, L helix for brass

Art. 11134 HARTNER

Cod. Fornitore: **81020**
Manufacturer code: **81020**



Descrizione:
Punta elicoidale corta HSS lucida, DIN 338 H, codolo cilindrico, elica Low per ottone e materiali fragili a truciolo corto.

HSS bright jobber drill, DIN 338 H, Low helix for brass and brittle short-chipping materials.

ART. 11134

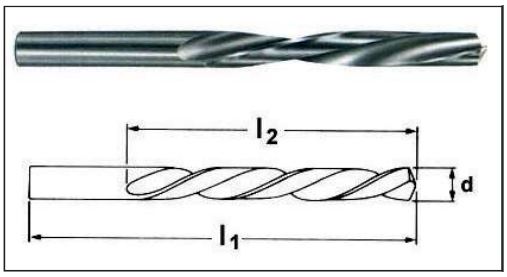
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11134019	**1,00**	34	12	11134239	**4,50**	80	47	11134434	**8,10**	117	75
11134024	**1,10**	36	14	11134244	**4,60**	80	47	11134439	**8,20**	117	75
11134029	**1,20**	38	16	11134249	**4,70**	80	47	11134444	**8,30**	117	75
11134034	**1,25**	38	16	11134259	**4,80**	86	52	11134449	**8,40**	117	75
11134039	**1,30**	38	16	11134264	**4,90**	86	52	11134454	**8,50**	117	75
11134044	**1,40**	40	18	11134269	**5,00**	86	52	11134459	**8,60**	125	81
11134049	**1,50**	40	18	11134274	**5,10**	86	52	11134464	**8,70**	125	81
11134054	**1,60**	43	20	11134279	**5,20**	86	52	11134474	**8,80**	125	81
11134059	**1,70**	43	20	11134284	**5,25**	86	52	11134479	**8,90**	125	81
11134069	**1,80**	46	22	11134289	**5,30**	86	52	11134484	**9,00**	125	81
11134074	**1,90**	46	22	11134294	**5,40**	93	57	11134489	**9,10**	125	81
11134079	**2,00**	49	24	11134299	**5,50**	93	57	11134494	**9,20**	125	81
11134084	**2,10**	49	24	11134304	**5,60**	93	57	11134499	**9,30**	125	81
11134089	**2,20**	53	27	11134309	**5,70**	93	57	11134504	**9,40**	125	81
11134094	**2,25**	53	27	11134314	**5,75**	93	57	11134509	**9,50**	125	81
11134099	**2,30**	53	27	11134319	**5,80**	93	57	11134514	**9,60**	133	87
11134104	**2,40**	57	30	11134324	**5,90**	93	57	11134519	**9,70**	133	87
11134109	**2,50**	57	30	11134329	**6,00**	93	57	11134529	**9,80**	133	87
11134119	**2,60**	57	30	11134334	**6,10**	101	63	11134534	**9,90**	133	87
11134124	**2,70**	61	33	11134339	**6,20**	101	63	11134539	**10,00**	133	87
11134134	**2,80**	61	33	11134344	**6,30**	101	63	11134545	**10,10**	133	87
11134139	**2,90**	61	33	11134349	**6,40**	101	63	11134549	**10,20**	133	87
11134144	**3,00**	61	33	11134354	**6,50**	101	63	11134569	**10,50**	133	87
11134149	**3,10**	65	36	11134359	**6,60**	101	63	11134574	**10,60**	133	87
11134159	**3,20**	65	36	11134364	**6,70**	101	63	11134584	**10,80**	142	94
11134164	**3,25**	65	36	11134369	**6,80**	109	69	11134594	**11,00**	142	94
11134169	**3,30**	65	36	11134374	**6,90**	109	69	11134604	**11,20**	142	94
11134174	**3,40**	70	39	11134379	**7,00**	109	69	11134619	**11,50**	142	94
11134179	**3,50**	70	39	11134384	**7,10**	109	69	11134644	**12,00**	151	101
11134184	**3,60**	70	39	11134389	**7,20**	109	69	11134654	**12,50**	151	101
11134189	**3,70**	70	39	11134394	**7,30**	109	69	11134660	**12,70**	151	101
11134199	**3,80**	75	43	11134399	**7,40**	109	69	11134664	**13,00**	151	101
11134209	**4,00**	75	43	11134404	**7,50**	109	69	11134669	**14,00**	160	108
11134214	**4,10**	75	43	11134409	**7,60**	117	75	11134670	**14,50**	169	114
11134219	**4,20**	75	43	11134414	**7,70**	117	75	11134674	**15,00**	169	114
11134224	**4,25**	75	43	11134419	**7,80**	117	75	11134679	**16,00**	178	120
11134229	**4,30**	80	47	11134424	**7,90**	117	75	11134831	**18,00**	191	130
11134234	**4,40**	80	47	11134429	**8,00**	117	75	11134847	**20,00**	205	140

Punta corta sinistrorsa HSS, DIN 338, elica L per ottone
HSS jobber drill, left-hand cutting, DIN 338, L helix for brass

Art. 11145 HARTNER

Cod. Fornitore: **81025**
Manufacturer code: **81025**



ART. 11145

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11145080	**2,00**	49	24	11145305	**6,50**	101	63
11145093	**2,50**	57	30	11145309	**7,00**	109	69
11145111	**3,00**	61	33	11145327	**7,50**	109	69
11145129	**3,10**	65	36	11145345	**8,00**	117	75
11145147	**3,30**	65	36	11145354	**8,50**	117	75
11145165	**3,50**	70	39	11145363	**8,80**	125	81
11145183	**3,70**	70	39	11145366	**9,00**	125	81
11145201	**4,00**	75	43	11145381	**10,00**	133	87
11145219	**4,20**	75	43	11145390	**11,00**	142	94
11145237	**4,50**	80	47	11145399	**12,00**	151	101
11145255	**4,60**	80	47	11145417	**12,50**	151	101
11145273	**5,00**	86	52	11145435	**13,00**	151	101
11145280	**5,20**	86	52	11145444	**14,00**	160	108
11145291	**5,50**	93	57	11145448	**14,50**	169	114
11145300	**6,00**	93	57	11145471	**16,00**	178	120

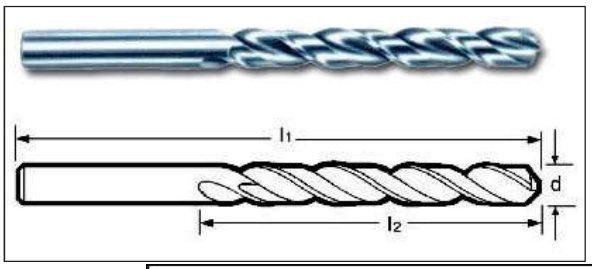
Descrizione:
Punta elicoidale corta sinistrorsa HSS lucida, DIN 338 H, codolo cilindrico, elica Low per ottone e materiali fragili a truciolo corto.

HSS bright jobber drill, left-hand cutting, DIN 338 H, Low helix for brass and brittle short-chipping materials.

Punta corta HSS, DIN 338, elica HSP per alluminio
HSS jobber drill, DIN 338, HSP helix for aluminum

Art. 11158 HARTNER

Cod. Fornitore: **81030**
Manufacturer code: **81030**



Descrizione:
Punta elicoidale corta HSS lucida, DIN 338 W, codolo cilindrico, elica High con scanalature profonde per alluminio e materiali teneri a truciolo lungo.

HSS bright jobber drill, DIN 338 W, High helix with wide flutes for aluminium and tender long -chipping materials.

ART. 11158

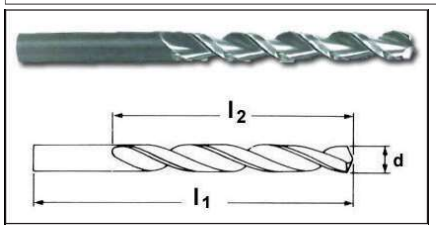
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11158021	**1,00**	34	12	11158245	**3,70**	70	39	11158477	**6,50**	101	63
11158024	**1,10**	36	14	11158253	**3,80**	75	43	11158485	**6,60**	101	63
11158027	**1,20**	36	14	11158261	**3,90**	75	43	11158493	**6,70**	101	63
11158037	**1,30**	38	16	11158269	**4,00**	75	43	11158501	**6,80**	109	69
11158045	**1,40**	40	18	11158277	**4,10**	75	43	11158509	**6,90**	109	69
11158053	**1,50**	40	18	11158285	**4,20**	75	43	11158517	**7,00**	109	69
11158061	**1,60**	43	20	11158301	**4,30**	80	47	11158525	**7,10**	109	69
11158069	**1,70**	43	20	11158309	**4,40**	80	47	11158533	**7,20**	109	69
11158085	**1,80**	46	22	11158317	**4,50**	80	47	11158541	**7,30**	109	69
11158093	**1,90**	46	22	11158325	**4,60**	80	47	11158549	**7,40**	109	69
11158101	**2,00**	49	24	11158333	**4,70**	80	47	11158557	**7,50**	109	69
11158109	**2,10**	49	24	11158341	**4,80**	86	52	11158565	**7,60**	117	75
11158117	**2,20**	53	27	11158349	**4,90**	86	52	11158581	**7,80**	117	75
11158125	**2,30**	53	27	11158357	**5,00**	86	52	11158589	**7,90**	117	75
11158133	**2,40**	57	30	11158365	**5,10**	86	52	11158597	**8,00**	117	75
11158141	**2,50**	57	30	11158373	**5,20**	86	52	11158605	**8,40**	117	75
11158149	**2,60**	57	30	11158389	**5,40**	93	57	11158613	**8,50**	117	75
11158157	**2,70**	61	33	11158397	**5,50**	93	57	11158621	**9,00**	125	81
11158165	**2,80**	61	33	11158405	**5,60**	93	57	11158629	**9,50**	125	81
11158173	**2,90**	61	33	11158413	**5,70**	93	57	11158637	**9,80**	133	87
11158181	**3,00**	61	33	11158421	**5,80**	93	57	11158645	**10,00**	133	87
11158189	**3,10**	65	36	11158429	**5,90**	93	57	11158653	**10,10**	133	87
11158197	**3,20**	65	36	11158437	**6,00**	93	57	11158661	**10,50**	133	87
11158213	**3,30**	65	36	11158445	**6,10**	101	63	11158669	**11,00**	142	94
11158221	**3,40**	70	39	11158453	**6,20**	101	63	11158677	**11,50**	142	94
11158229	**3,50**	70	39	11158461	**6,30**	101	63	11158685	**12,00**	151	101
11158237	**3,60**	70	39	11158469	**6,40**	101	63	11158693	**12,50**	151	101

Punta corta HSS-Co, DIN 338, elica XT H
HSS-Co jobber drill, DIN 338, H XT helix

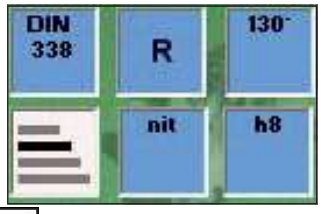
Art. 11170 HARTNER

Cod. Fornitore: **81041**
Manufacturer code: **81041**



Descrizione:
Punta elicoidale corta HSS-Co nitrurata, DIN 338, codolo cilindrico, elica XT High per acciaio e materiali a truciolo lungo con resistenza a trazione superiore a 800 N/mm².

HSS-Co nitrided jobber drill, DIN 338, High XT helix for steel and long-chipping materials with tensile stress from 800 N/mm² and up.



ART. 11170

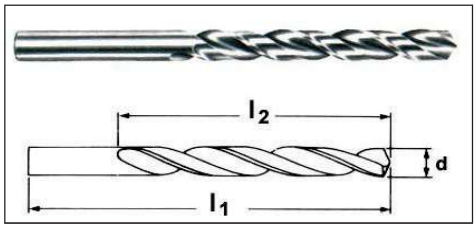
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11170159	**2,00**	49	24	11170375	**4,90**	86	52	11170549	**7,20**	109	69
11170165	**2,10**	49	24	11170380	**5,00**	86	52	11170555	**7,30**	109	69
11170195	**2,50**	57	30	11170387	**5,10**	86	52	11170567	**7,50**	109	69
11170201	**2,60**	57	30	11170399	**5,20**	86	52	11170591	**7,80**	117	75
11170207	**2,70**	61	33	11170405	**5,30**	86	52	11170609	**8,00**	117	75
11170230	**3,00**	61	33	11170411	**5,40**	93	57	11170615	**8,10**	117	75
11170249	**3,20**	65	36	11170417	**5,50**	93	57	11170621	**8,20**	117	75
11170255	**3,30**	65	36	11170441	**5,80**	93	57	11170627	**8,30**	117	75
11170261	**3,40**	70	39	11170453	**5,90**	93	57	11170645	**8,50**	117	75
11170267	**3,50**	70	39	11170459	**6,00**	93	57	11170669	**8,80**	125	81
11170291	**3,80**	75	43	11170477	**6,30**	101	63	11170681	**9,00**	125	81
11170305	**4,00**	75	43	11170495	**6,50**	101	63	11170705	**9,30**	125	81
11170315	**4,10**	75	43	11170507	**6,70**	101	63	11170717	**9,50**	125	81
11170321	**4,20**	75	43	11170519	**6,80**	109	69	11170762	**10,00**	133	87
11170327	**4,30**	80	47	11170531	**7,00**	109	69	11170789	**10,80**	142	94
11170345	**4,50**	80	47	11170537	**7,10**	109	69	11170795	**11,00**	142	94
11170369	**4,80**	86	52					11170849	**12,50**	151	101

Punta corta HSS-Co, DIN 338, elica H per inox
HSS-Co jobber drill, DIN 338, H helix for inox

Art. 11178 HARTNER

Cod. Fornitore: **81013**
Manufacturer code: **81013**



Descrizione:
Punta elicoidale corta HSS-Co lucida, DIN 338 IS, codolo cilindrico, elica High con elevata resistenza al calore per acciai inossidabili, resistenti al calore e agli acidi.

HSS-Co bright jobber drill, DIN 338 IS, High helix with high heat resistance for stainless, heat and acid resistant steels.

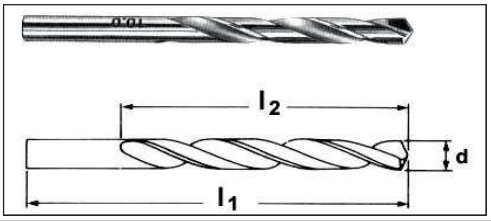
ART. 11178

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11178047	**2,00**	49	24	11178239	**4,40**	80	47	11178431	**6,80**	109	69	11178623	**9,20**	125	81
11178055	**2,10**	49	24	11178247	**4,50**	80	47	11178439	**6,90**	109	69	11178631	**9,30**	125	81
11178063	**2,20**	53	27	11178255	**4,60**	80	47	11178447	**7,00**	109	69	11178639	**9,40**	125	81
11178071	**2,30**	53	27	11178263	**4,70**	80	47	11178455	**7,10**	109	69	11178647	**9,50**	125	81
11178079	**2,40**	57	30	11178271	**4,80**	86	52	11178463	**7,20**	109	69	11178655	**9,60**	133	87
11178087	**2,50**	57	30	11178279	**4,90**	86	52	11178471	**7,30**	109	69	11178663	**9,70**	133	87
11178095	**2,60**	57	30	11178287	**5,00**	86	52	11178479	**7,40**	109	69	11178671	**9,80**	133	87
11178103	**2,70**	61	33	11178295	**5,10**	86	52	11178487	**7,50**	109	69	11178679	**9,90**	133	87
11178111	**2,80**	61	33	11178303	**5,20**	86	52	11178495	**7,60**	117	75	11178687	**10,00**	133	87
11178119	**2,90**	61	33	11178311	**5,30**	86	52	11178503	**7,70**	117	75	11178695	**10,10**	133	87
11178127	**3,00**	61	36	11178319	**5,40**	93	57	11178511	**7,80**	117	75	11178703	**10,20**	133	87
11178135	**3,10**	65	36	11178327	**5,50**	93	57	11178519	**7,90**	117	75	11178711	**10,30**	133	87
11178143	**3,20**	65	36	11178335	**5,60**	93	57	11178527	**8,00**	117	75	11178719	**10,40**	133	87
11178151	**3,30**	65	36	11178343	**5,70**	93	57	11178535	**8,10**	117	75	11178727	**10,50**	133	87
11178159	**3,40**	70	39	11178351	**5,80**	93	57	11178543	**8,20**	117	75	11178735	**10,70**	142	94
11178167	**3,50**	70	39	11178359	**5,90**	93	57	11178551	**8,30**	117	75	11178743	**10,80**	142	94
11178175	**3,60**	70	39	11178367	**6,00**	93	57	11178559	**8,40**	117	75	11178751	**11,00**	142	94
11178183	**3,70**	70	39	11178375	**6,10**	101	63	11178567	**8,50**	117	75	11178759	**11,10**	142	94
11178191	**3,80**	75	43	11178383	**6,20**	101	63	11178575	**8,60**	125	81	11178767	**11,20**	142	94
11178199	**3,90**	75	43	11178391	**6,30**	101	63	11178583	**8,70**	125	81	11178775	**11,40**	142	94
11178207	**4,00**	75	43	11178399	**6,40**	101	63	11178591	**8,80**	125	81	11178783	**11,50**	142	94
11178215	**4,10**	75	43	11178407	**6,50**	101	63	11178599	**8,90**	125	81	11178791	**11,80**	142	94
11178223	**4,20**	75	43	11178415	**6,60**	101	63	11178607	**9,00**	125	81	11178799	**12,00**	151	101
11178231	**4,30**	80	47	11178423	**6,70**	101	63	11178615	**9,10**	125	81				

Punta corta HSS riporto HM
HSS carbide-tipped jobber drill

Art. 11201 GnuBo



Descrizione:
Punta elicoidale corta HSS con riporto HM, simile a DIN 338, codolo cilindrico, per materiali di elevata durezza.

HSS carbide-tipped jobber drill, similar to DIN 338, for very hard materials.

ART. 11201

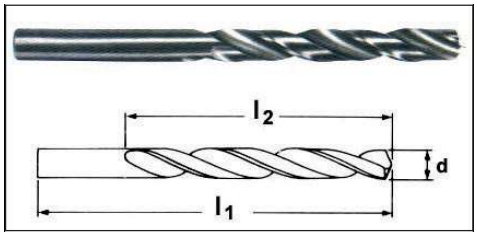
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11201071	**3,00**	61	33	11201231	**5,00**	86	52	11201383	**7,00**	109	69	11201543	**9,00**	125	81
11201079	**3,10**	65	36	11201239	**5,10**	86	52	11201391	**7,10**	109	69	11201583	**9,50**	125	81
11201087	**3,20**	65	36	11201247	**5,20**	86	52	11201399	**7,20**	109	69	11201623	**10,00**	133	87
11201095	**3,30**	65	36	11201255	**5,30**	86	52	11201407	**7,30**	109	69	11201631	**10,50**	133	87
11201111	**3,50**	70	39	11201259	**5,40**	93	57	11201415	**7,40**	109	69	11201639	**11,00**	142	94
11201119	**3,60**	70	39	11201263	**5,50**	93	57	11201423	**7,50**	109	69	11201647	**11,50**	142	94
11201135	**3,80**	75	43	11201287	**5,80**	93	57	11201439	**7,70**	117	75	11201655	**12,00**	151	101
11201151	**4,00**	75	43	11201303	**6,00**	93	57	11201447	**7,80**	117	75	11201663	**12,50**	151	101
11201167	**4,20**	75	43	11201311	**6,10**	101	63	11201463	**8,00**	117	75	11201671	**13,00**	151	101
11201175	**4,30**	80	47	11201319	**6,20**	101	63	11201487	**8,30**	117	75	11201679	**13,50**	160	108
11201191	**4,50**	80	47	11201343	**6,50**	101	63	11201503	**8,50**	117	75	11201687	**14,00**	160	108
11201207	**4,70**	80	47	11201351	**6,60**	101	63	11201519	**8,70**	125	81	11201703	**15,00**	169	114
11201215	**4,80**	86	52	11201359	**6,70**	101	63					11201719	**16,00**	178	120

Punta corta HM, elica Std.
HM jobber drill, Std. helix

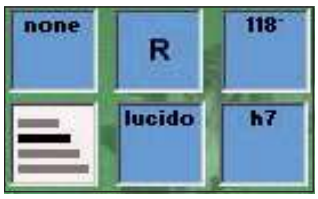
Art. 11211 HARTNER

Cod. Fornitore: **89244**
Manufacturer code: **89244**



Descrizione:
Punta elicoidale corta HM lucida, codolo cilindrico, elica Standard, per materiali duri e abrasivi, metalli leggeri e non ferrosi.

HM bright jobber drill, Standard helix, for hard and abrasive materials, light and non ferrous metals.



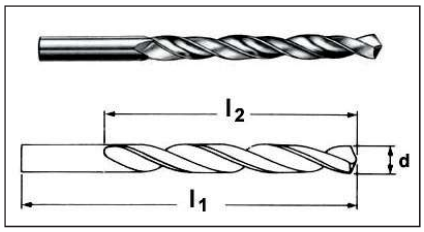
ART. 11211

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11211013	**1,00**	34	12	11211173	**3,10**	65	36	11211325	**5,30**	86	52	11211451	**7,90**	117	75
11211021	**1,10**	36	14	11211181	**3,20**	65	36	11211333	**5,40**	93	57	11211453	**8,00**	117	75
11211029	**1,20**	38	16	11211189	**3,30**	65	36	11211341	**5,50**	93	57	11211461	**8,20**	117	75
11211037	**1,30**	38	16	11211197	**3,40**	70	39	11211349	**5,60**	93	57	11211469	**8,30**	117	75
11211045	**1,40**	40	18	11211205	**3,50**	70	39	11211353	**5,70**	93	57	11211473	**8,40**	117	75
11211053	**1,50**	40	18	11211213	**3,60**	70	39	11211357	**5,80**	93	57	11211477	**8,50**	117	75
11211061	**1,60**	43	20	11211221	**3,70**	70	39	11211365	**5,90**	93	57	11211489	**8,80**	125	81
11211069	**1,70**	43	20	11211229	**3,80**	75	43	11211373	**6,00**	93	57	11211493	**9,00**	125	81
11211077	**1,80**	46	22	11211237	**3,90**	75	43	11211381	**6,10**	101	63	11211501	**9,10**	125	81
11211085	**1,90**	46	22	11211245	**4,00**	75	43	11211389	**6,20**	101	63	11211509	**9,20**	125	81
11211093	**2,00**	49	24	11211253	**4,10**	75	43	11211405	**6,50**	101	63	11211517	**9,40**	125	81
11211101	**2,10**	49	24	11211261	**4,20**	75	43	11211413	**6,80**	109	69	11211525	**9,50**	125	81
11211109	**2,20**	53	27	11211269	**4,30**	80	47	11211417	**6,90**	109	69	11211541	**9,70**	133	87
11211117	**2,30**	53	27	11211273	**4,40**	80	47	11211421	**7,00**	109	69	11211549	**9,80**	133	87
11211125	**2,40**	57	30	11211277	**4,50**	80	47	11211425	**7,10**	109	69	11211553	**9,90**	133	87
11211133	**2,50**	57	30	11211285	**4,60**	80	47	11211429	**7,20**	109	69	11211557	**10,00**	133	87
11211141	**2,60**	57	30	11211293	**4,80**	86	52	11211435	**7,30**	109	69	11211565	**10,20**	133	87
11211145	**2,70**	61	33	11211297	**4,90**	86	52	11211441	**7,40**	109	69	11211573	**10,50**	133	87
11211149	**2,80**	61	33	11211301	**5,00**	86	52	11211445	**7,50**	109	69	11211581	**11,00**	142	94
11211157	**2,90**	61	33	11211309	**5,10**	86	52	11211447	**7,70**	117	75	11211589	**11,50**	142	94
11211165	**3,00**	61	33	11211317	**5,20**	86	52	11211449	**7,80**	117	75	11211597	**12,00**	151	101

Punta corta HM, DIN 338, elica Std.
HM jobber drill, DIN 338, Std. helix

Art. 11222 GnuBo



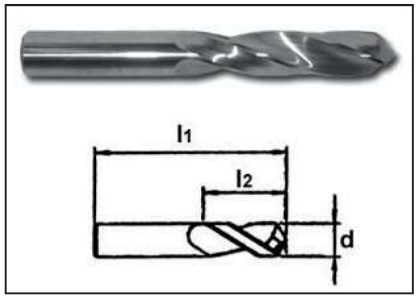
ART. 11222			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11222130	**13,00**	101	151
11222140	**14,00**	160	108
11222150	**15,00**	169	114

Descrizione:
Punta elicoidale corta HM lucida, DIN 338, codolo cilindrico, elica Standard per materiali duri e abrasivi, metalli leggeri e non ferrosi.

HM bright jobber drill, DIN 338, Standard helix for hard and abrasive materials, light and non ferrous metals.

Punta corta HM, elica lunga per ottone
HM jobber drill, long helix for brass

Art. 11225 GnuBo



ART. 11225			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11225087	**4,00**	80	40
11225105	**4,50**	80	40
11225123	**5,00**	80	40
11225141	**5,50**	80	40
11225159	**6,00**	95	52,5
11225177	**6,50**	95	52,5
11225195	**7,00**	95	52,5
11225213	**7,50**	95	52,5
11225231	**8,00**	110	65
11225249	**8,50**	110	65
11225267	**9,00**	110	65
11225303	**9,50**	110	65
11225321	**10,00**	125	77,5
11225357	**11,00**	125	77,5
11225375	**12,00**	140	90
11225411	**13,00**	140	90
11225429	**14,00**	155	102,5
11225465	**15,00**	170	115
11225483	**16,00**	170	115
11225527	**17,00**	185	127,5
11225549	**18,00**	185	127,5
11225565	**19,00**	200	140
11225571	**20,00**	200	140

Descrizione:
Punta elicoidale corta HM lucida, codolo cilindrico, elica lunga per ottone e materiali a truciolo corto.

HM bright stub drill, long helix for brass and short chip materials.

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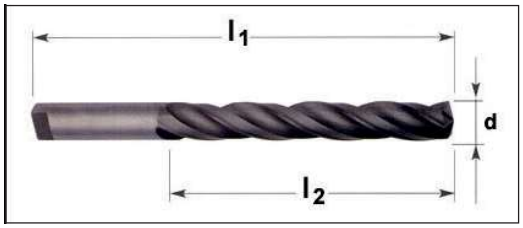
Punta a tre eliche corta HM
HM, three flutes jobber drill

Art. 11230 GnuBo



Descrizione:
Punta a tre eliche corta HM lucida, codolo cilindrico. Elica Standard 30°, per acciai, ghise e materiali non ferrosi.

HM bright three flutes jobber drill. Standard helix 30°, for steel, cast iron and non ferrous materials.

ART. 11230

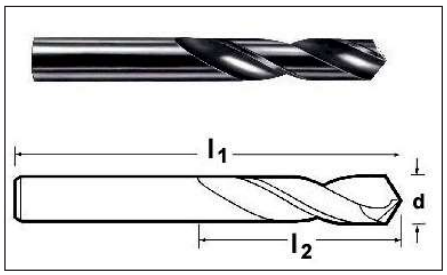
*** : su richiesta/under request**

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	Z [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	Z [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	Z [mm]
11230020	**2,0**	49	24	3	11230058	**5,8**	93	57	3	11230096	**9,6**	133	87	3
11230021	**2,1**	49	24	3	11230059	**5,9**	93	57	3	11230097	**9,7**	133	87	3
11230022	**2,2**	53	27	3	11230060	**6,0**	93	57	3	11230098	**9,8**	133	87	3
11230023	**2,3**	53	27	3	11230061	**6,1**	101	63	3	11230099	**9,9**	133	87	3
11230024	**2,4**	57	30	3	11230062	**6,2**	101	63	3	11230100	**10,0**	133	87	3
11230025	**2,5**	57	30	3	11230063	**6,3**	101	63	3	11230101	**10,1**	133	87	3
11230026	**2,6**	57	30	3	11230064	**6,4**	101	63	3	11230102	**10,2**	133	87	3
11230027	**2,7**	61	33	3	11230065	**6,5**	101	63	3	11230103	**10,3**	133	87	3
11230028	**2,8**	61	33	3	11230066	**6,6**	101	63	3	11230104	**10,4**	133	87	3
11230029	**2,9**	61	33	3	11230067	**6,7**	101	63	3	11230105	**10,5**	133	87	3
11230030	**3,0**	61	33	3	11230068	**6,8**	109	69	3	11230106	**10,6**	133	87	3
11230031	**3,1**	65	36	3	11230069	**6,9**	109	69	3	11230107	**10,7**	142	94	3
11230032	**3,2**	65	36	3	11230070	**7,0**	109	69	3	11230108	**10,8**	142	94	3
11230033	**3,3**	65	36	3	11230071	**7,1**	109	69	3	11230109	**10,9**	142	94	3
11230034	**3,4**	70	39	3	11230072	**7,2**	109	69	3	11230110	**11,0**	142	94	3
11230035	**3,5**	70	39	3	11230073	**7,3**	109	69	3	11230111	**11,1**	142	94	3
11230036	**3,6**	70	39	3	11230074	**7,4**	109	69	3	11230112	**11,2**	142	94	3
11230037	**3,7**	70	39	3	11230075	**7,5**	109	69	3	11230113	**11,3**	142	94	3
11230038	**3,8**	75	43	3	11230076	**7,6**	117	75	3	11230114	**11,4**	142	94	3
11230039	**3,9**	75	43	3	11230077	**7,7**	117	75	3	11230115	**11,5**	142	94	3
11230040	**4,0**	75	43	3	11230078	**7,8**	117	75	3	11230116	**11,6**	142	94	3
11230041	**4,1**	75	43	3	11230079	**7,9**	117	75	3	11230117	**11,7**	142	94	3
11230042	**4,2**	75	43	3	11230080	**8,0**	117	75	3	11230118	**11,8**	142	94	3
11230043	**4,3**	80	47	3	11230081	**8,1**	117	75	3	11230119	**11,9**	151	101	3
11230044	**4,4**	80	47	3	11230082	**8,2**	117	75	3	11230120	**12,0**	151	101	3
11230045	**4,5**	80	47	3	11230083	**8,3**	117	75	3	11230125	**12,5**	151	101	3
11230046	**4,6**	80	47	3	11230084	**8,4**	117	75	3	11230130	**13,0**	151	101	3
11230047	**4,7**	80	47	3	11230085	**8,5**	117	75	3	*	**13,5**	160	108	3
11230048	**4,8**	86	52	3	11230086	**8,6**	125	81	3	*	**14,0**	160	108	3
11230049	**4,9**	86	52	3	11230087	**8,7**	125	81	3	*	**14,5**	169	114	3
11230050	**5,0**	86	52	3	11230088	**8,8**	125	81	3	*	**15,0**	169	114	3
11230051	**5,1**	86	52	3	11230089	**8,9**	125	81	3	*	**15,5**	178	120	3
11230052	**5,2**	86	52	3	11230090	**9,0**	125	81	3	*	**16,0**	178	120	3
11230053	**5,3**	86	52	3	11230091	**9,1**	125	81	3	*	**17,0**	184	125	3
11230054	**5,4**	93	57	3	11230092	**9,2**	125	81	3	*	**18,0**	191	130	3
11230055	**5,5**	93	57	3	11230093	**9,3**	125	81	3	*	**19,0**	198	135	3
11230056	**5,6**	93	57	3	11230094	**9,4**	125	81	3	*	**20,0**	205	140	3
11230057	**5,7**	93	57	3	11230095	**9,5**	125	81	3					

Punta extracorta HSS, DIN 1897, elica Std.
HSS stub drill, DIN 1897, Std. helix

Art. 11251 CLEVELAND



Cod. Fornitore: **2103**
Manufacturer code: **2103**

Descrizione:
Punta elicoidale extracorta HSS nitrurata, DIN 1897, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciaio e ghisa su torni automatici ed a torretta.

HSS nitrided stub drill, DIN 1897, Standard helix. General purpose drill for steel and cast iron for use on automatics and turret lathes.

ART. 11251

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11251063	**2,00**	38	12	11251183	**4,90**	62	26	11251399	**10,20**	89	43
11251067	**2,10**	38	12	11251187	**5,00**	62	26	11251411	**10,50**	89	43
11251071	**2,20**	40	13	11251191	**5,10**	62	26	11251431	**11,00**	95	47
11251079	**2,30**	40	13	11251195	**5,20**	62	26	11251451	**11,50**	95	47
11251083	**2,40**	43	14	11251199	**5,30**	62	26	11251471	**12,00**	102	51
11251087	**2,50**	43	14	11251203	**5,40**	66	28	11251491	**12,50**	102	51
11251091	**2,60**	43	14	11251207	**5,50**	66	28	11251511	**13,00**	102	51
11251095	**2,70**	46	16	11251211	**5,60**	66	28	11251515	**13,50**	107	54
11251099	**2,80**	46	16	11251215	**5,70**	66	28	11251519	**14,00**	107	54
11251103	**2,90**	46	16	11251219	**5,80**	66	28	11251523	**14,50**	111	56
11251107	**3,00**	46	16	11251223	**5,90**	66	28	11251527	**15,00**	111	56
11251111	**3,10**	49	18	11251227	**6,00**	66	28	11251531	**15,50**	115	58
11251115	**3,20**	49	18	11251231	**6,10**	70	31	11251535	**16,00**	115	58
11251119	**3,30**	49	18	11251235	**6,20**	70	31	11251539	**16,50**	119	60
11251123	**3,40**	52	20	11251239	**6,30**	70	31	11251543	**17,00**	119	60
11251127	**3,50**	52	20	11251243	**6,40**	70	31	11251547	**17,50**	123	62
11251131	**3,60**	52	20	11251247	**6,50**	70	31	11251551	**18,00**	123	62
11251135	**3,70**	52	20	11251251	**6,60**	70	31	11251555	**18,50**	127	64
11251139	**3,80**	55	22	11251255	**6,70**	70	31	11251559	**19,00**	127	64
11251143	**3,90**	55	22	11251263	**6,80**	74	34	11251563	**19,50**	131	66
11251147	**4,00**	55	22	11251267	**6,90**	74	34	11251567	**20,00**	131	66
11251151	**4,10**	55	22	11251271	**7,00**	74	34	11251575	**21,00**	136	68
11251155	**4,20**	55	22	11251291	**7,50**	74	34	11251583	**22,00**	141	70
11251159	**4,30**	58	24	11251303	**7,80**	79	37	11251587	**23,00**	146	72
11251163	**4,40**	58	24	11251311	**8,00**	79	37	11251591	**24,00**	151	75
11251167	**4,50**	58	24	11251331	**8,50**	79	37	11251595	**25,00**	151	75
11251171	**4,60**	58	24	11251351	**9,00**	84	40	11251615	**28,00**	162	81
11251175	**4,70**	58	24	11251371	**9,50**	84	40	11251619	**30,00**	168	84
11251179	**4,80**	62	26	11251391	**10,00**	89	43				

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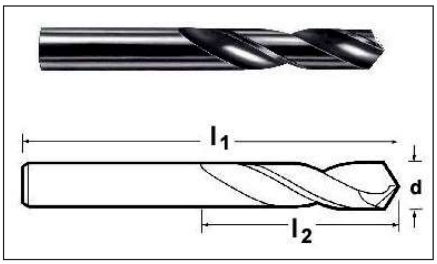
Punta extracorta HSS, elica Std
HSS stub drill, DIN 1897, Std. helix

Art. 11255 HARTNER

Cod. Fornitore: **81110**
Manufacturer code: **81110**



Descrizione:
Punta elicoidale extracorta HSS nitrurata, DIN 1897 N, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciaio e ghisa su torni automatici ed a torretta.

HSS nitrided stub drill, DIN 1897 N, Standard helix. General purpose drill for steel and cast iron for use on automatics and turret lathes.

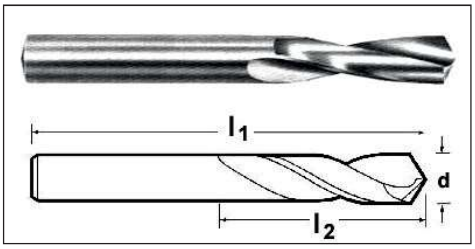
ART. 11255

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11255024	**1,00**	26	6	11255223	**5,90**	66	28	11255419	**10,70**	95	47
11255027	**1,10**	28	7	11255227	**6,00**	66	28	11255423	**10,80**	95	47
11255031	**1,20**	30	8	11255231	**6,10**	70	31	11255427	**10,90**	95	47
11255035	**1,30**	30	8	11255235	**6,20**	70	31	11255431	**11,00**	95	47
11255039	**1,40**	32	9	11255239	**6,30**	70	31	11255435	**11,10**	95	47
11255043	**1,50**	32	9	11255243	**6,40**	70	31	11255439	**11,20**	95	47
11255047	**1,60**	34	10	11255247	**6,50**	70	31	11255443	**11,30**	95	47
11255051	**1,70**	34	10	11255251	**6,60**	70	31	11255447	**11,40**	95	47
11255055	**1,80**	36	11	11255255	**6,70**	70	31	11255451	**11,50**	95	47
11255059	**1,90**	36	11	11255263	**6,80**	74	34	11255455	**11,60**	95	47
11255063	**2,00**	38	12	11255267	**6,90**	74	34	11255459	**11,70**	95	47
11255067	**2,10**	38	12	11255271	**7,00**	74	34	11255463	**11,80**	95	47
11255071	**2,20**	40	13	11255275	**7,10**	74	34	11255467	**11,90**	102	51
11255079	**2,30**	40	13	11255279	**7,20**	74	34	11255471	**12,00**	102	51
11255083	**2,40**	43	14	11255283	**7,30**	74	34	11255475	**12,10**	102	51
11255087	**2,50**	43	14	11255287	**7,40**	74	34	11255479	**12,20**	102	51
11255091	**2,60**	43	14	11255291	**7,50**	74	34	11255483	**12,30**	102	51
11255095	**2,70**	46	16	11255295	**7,60**	79	37	11255487	**12,40**	102	51
11255099	**2,80**	46	16	11255299	**7,70**	79	37	11255491	**12,50**	102	51
11255103	**2,90**	46	16	11255303	**7,80**	79	37	11255495	**12,60**	102	51
11255107	**3,00**	46	16	11255307	**7,90**	79	37	11255499	**12,70**	102	51
11255111	**3,10**	49	18	11255311	**8,00**	79	37	11255503	**12,80**	102	51
11255115	**3,20**	49	18	11255315	**8,10**	79	37	11255507	**12,90**	102	51
11255119	**3,30**	49	18	11255319	**8,20**	79	37	11255511	**13,00**	102	51
11255123	**3,40**	52	20	11255323	**8,30**	79	37	11255515	**13,50**	107	54
11255127	**3,50**	52	20	11255327	**8,40**	79	37	11255519	**14,00**	107	54
11255131	**3,60**	52	20	11255331	**8,50**	79	37	11255523	**14,50**	111	56
11255135	**3,70**	52	20	11255335	**8,60**	84	40	11255527	**15,00**	111	56
11255139	**3,80**	55	22	11255339	**8,70**	84	40	11255531	**15,50**	115	58
11255143	**3,90**	55	22	11255343	**8,80**	84	40	11255535	**16,00**	115	58
11255147	**4,00**	55	22	11255347	**8,90**	84	40	11255539	**16,50**	119	60
11255151	**4,10**	55	22	11255351	**9,00**	84	40	11255543	**17,00**	119	60
11255155	**4,20**	55	22	11255355	**9,10**	84	40	11255547	**17,50**	123	62
11255159	**4,30**	58	24	11255359	**9,20**	84	40	11255551	**18,00**	123	62
11255163	**4,40**	58	24	11255363	**9,30**	84	40	11255555	**18,50**	127	64
11255167	**4,50**	58	24	11255367	**9,40**	84	40	11255559	**19,00**	127	64
11255171	**4,60**	58	24	11255371	**9,50**	84	40	11255563	**19,50**	131	66
11255175	**4,70**	58	24	11255375	**9,60**	89	43	11255567	**20,00**	131	66
11255179	**4,80**	62	26	11255379	**9,70**	89	43	11255575	**21,00**	136	68
11255183	**4,90**	62	26	11255383	**9,80**	89	43	11255583	**22,00**	141	70
11255187	**5,00**	62	26	11255387	**9,90**	89	43	11255587	**23,00**	146	72
11255191	**5,10**	62	26	11255391	**10,00**	89	43	11255591	**24,00**	151	75
11255195	**5,20**	62	26	11255395	**10,10**	89	43	11255595	**25,00**	151	75
11255199	**5,30**	62	26	11255399	**10,20**	89	43	11255597	**26,00**	156	78
11255203	**5,40**	66	28	11255403	**10,30**	89	43	11255607	**27,00**	162	81
11255207	**5,50**	66	28	11255407	**10,40**	89	43	11255611	**28,00**	162	81
11255211	**5,60**	66	28	11255411	**10,50**	89	43	11255615	**29,00**	168	84
11255215	**5,70**	66	28	11255415	**10,60**	89	43	11255619	**30,00**	168	84
11255219	**5,80**	66	28								

Punta extracorta HSS, DIN 1897, elica L per ottone
HSS stub drill, DIN 1897, L helix for brass

Art. 11262 HARTNER



Descrizione:
Punta elicoidale extracorta HSS lucida, DIN 1897 H, codolo cilindrico, elica Low per ottone elica Low per ottone e materiali fragili a truciolo corto su torni automatici ed a torretta.

HSS bright stub drill, DIN 1897 H, Low helix for brass and brittle short-chipping materials for use on automatics and turret lathes.

Cod. Fornitore: **81120**
Manufacturer code: **81120**

ART. 11262

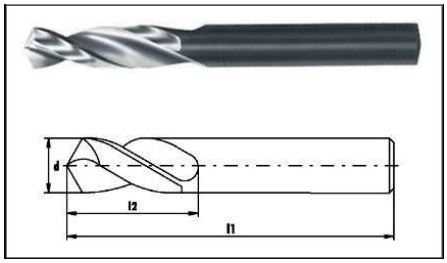
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11262015	**1,50**	32	9	11262231	**3,90**	55	22	11262447	**5,70**	66	28
11262039	**2,00**	38	12	11262243	**4,00**	55	22	11262459	**5,80**	66	28
11262063	**2,30**	40	13	11262255	**4,10**	55	22	11262483	**6,00**	66	28
11262075	**2,40**	43	14	11262267	**4,20**	55	22	11262495	**6,50**	70	31
11262087	**2,50**	43	14	11262279	**4,30**	58	24	11262507	**7,00**	74	34
11262099	**2,60**	43	14	11262291	**4,40**	58	24	11262525	**7,50**	74	34
11262111	**2,70**	46	16	11262303	**4,50**	58	24	11262531	**8,00**	79	37
11262123	**2,80**	46	16	11262315	**4,60**	58	24	11262543	**8,50**	79	37
11262130	**2,90**	46	16	11262327	**4,70**	58	24	11262555	**9,00**	84	40
11262135	**3,00**	46	16	11262339	**4,80**	62	26	11262567	**9,50**	84	40
11262147	**3,10**	49	18	11262363	**5,00**	62	26	11262575	**10,00**	89	43
11262159	**3,20**	49	18	11262375	**5,10**	62	26	11262595	**10,50**	89	43
11262171	**3,30**	49	18	11262387	**5,20**	62	26	11262603	**11,00**	95	47
11262183	**3,40**	52	20	11262399	**5,30**	62	26	11262627	**12,00**	102	51
11262195	**3,50**	52	20	11262411	**5,40**	66	28	11262639	**13,00**	102	51
11262207	**3,70**	52	20	11262423	**5,50**	66	28	11262651	**14,00**	107	54
11262219	**3,80**	55	22	11262435	**5,60**	66	28	11262663	**15,00**	111	56
								11262675	**16,00**	115	58

Punta extracorta HSS, DIN 1897, elica XT H
HSS stub drill, DIN 1897, H XT helix

Art. 11282 HARTNER

Cod. Fornitore: **81140**
Manufacturer code: **81140**



Descrizione:
Punta elicoidale extracorta HSS, lucide e a fasi nitrurate per diametri > mm 2,36, DIN 1897, codolo cilindrico, elica XT High. Punte speciali stabili, indicate per acciai automatici, inossidabili, da cementazione e da bonifica con resistenza a trazione fino a 800 N/mm², leghe di alluminio e rame a truciolo corto e medio, su torni automatici ed a revolver.

HSS-Co stub drill, bright and nitrided lands for diameters > mm 2,36, DIN 1897, High HT helix. A specially developed stub drill for free-cutting steel, stainless steel, acid-resisting steel, case hardening, heat-treatable steel with tensile stress up to 800 N/mm², short to medium chip length aluminium and copper alloys, on automatics, capstan lathes and hand tools.

ART. 11282

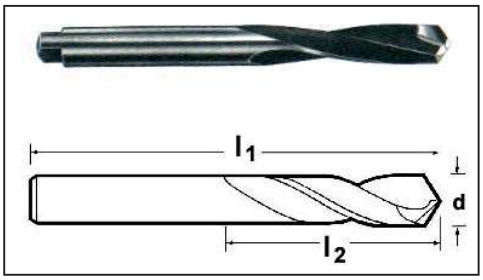
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11282065	**1,50**	32	9	11282195	**4,10**	55	22	11282490	**10,00**	89	43
11282080	**1,80**	36	11	11282205	**4,30**	58	24	11282520	**11,00**	95	47
11282090	**2,00**	38	12	11282220	**4,60**	58	24	11282530	**11,50**	95	47
11282094	**2,10**	38	12	11282240	**5,00**	62	26	11282540	**12,00**	102	51
11282110	**2,40**	43	14	11282245	**5,10**	62	26	11282550	**12,50**	102	51
11282118	**2,50**	43	14	11282250	**5,20**	62	26	11282560	**13,00**	102	51
11282120	**2,60**	43	14	11282265	**5,50**	66	28	11282570	**13,50**	107	54
11282130	**2,80**	46	16	11282280	**5,80**	66	28	11282600	**15,00**	111	56
11282135	**2,90**	46	16	11282290	**6,00**	66	28	11282610	**15,50**	115	58
11282140	**3,00**	46	16	11282295	**6,10**	70	31	11282620	**16,00**	115	58
11282145	**3,10**	49	18	11282305	**6,30**	70	31	11282630	**16,50**	119	60
11282150	**3,20**	49	18	11282340	**7,00**	74	34	11282640	**17,00**	119	60
11282155	**3,30**	49	18	11282355	**7,30**	74	34	11282650	**18,00**	123	62
11282165	**3,50**	52	20	11282360	**8,00**	79	37	11282660	**19,00**	127	64
11282190	**4,00**	55	22	11282365	**8,50**	79	37	11282670	**20,00**	131	66

Punta extracorta HSS riporto HM, DIN 8037
HSS carbide-tipped stub drill, DIN 8037

Art. 11317 HARTNER

Cod. Fornitore: **89301**
Manufacturer code: **89301**



Descrizione:
Punta elicoidale corta HSS con riporto HM, DIN 8037 N, codolo cilindrico per acciaio per molle, ghisa in conchiglia, molibdeno puro, ecc.

HSS carbide-tipped stub drill, DIN 8037 N, for spring steel, chilled cast iron, molybdenum, etc.

ART. 11317

Dati tecnici / Technical data

**: articoli ad esaurimento/exhaustion of this item in stock*

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11317048	**3,00**	50	20	11317192	**5,30**	71	32	11317372	**7,90**	80	40	11317525	**10,50**	100	56
11317057	**3,30**	56	25	11317210	**5,50**	71	32	11317381	**8,00**	80	40	11317534	**11,00**	100	56
11317075	**3,50**	56	25	11317237	**6,00**	71	32	11317390	**8,10**	90	50	11317543	**11,50**	112	63
11317084*	**3,60**	56	25	11317255	**6,30**	71	32	11317399*	**8,20**	90	50	11317552	**12,00**	112	63
11317093*	**3,90**	56	25	11317264	**6,50**	71	32	11317408*	**8,30**	90	50	11317561	**12,50**	112	63
11317102	**4,00**	56	25	11317282	**6,70**	80	40	11317417	**8,40**	90	50	11317570	**13,00**	112	63
11317111	**4,20**	63	28	11317291	**6,80**	80	40	11317426	**8,50**	90	50	11317579	**14,00**	125	71
11317120	**4,40**	63	28	11317300	**6,90**	80	40	11317435	**8,60**	90	50	11317588	**14,50**	125	71
11317129	**4,50**	63	28	11317309	**7,00**	80	40	11317444	**8,80**	90	50	11317597	**15,00**	125	71
11317138	**4,70**	63	28	11317318	**7,20**	80	40	11317453	**9,00**	90	50	11317602	**15,50**	140	80
11317147*	**4,80**	63	28	11317327	**7,30**	80	40	11317462*	**9,20**	90	50	11317606	**16,00**	140	80
11317156*	**4,90**	63	28	11317336	**7,40**	80	40	11317471	**9,50**	90	50	11317615	**16,50**	140	80
11317165	**5,00**	63	28	11317345	**7,50**	80	40	11317480	**9,60**	100	56	11317624	**17,00**	140	80
11317174	**5,10**	71	32	11317354	**7,60**	80	40	11317489	**9,70**	100	56	11317642	**18,00**	160	90
11317183	**5,20**	71	32	11317363	**7,70**	80	40	11317498	**9,80**	100	56	11317646	**19,00**	160	90
								11317507	**10,00**	100	56	11317651	**20,00**	160	90

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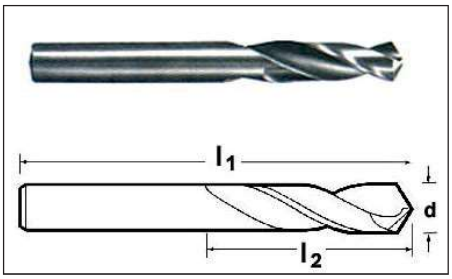
nella sezione
COMPONENTI MECCANICI
— STAMPI

Punta extracorta HM, DIN 6539, elica Std.
HM stub drill, DIN 6539, Std. helix

Art. 11328 HARTNER

Cod. Fornitore: **89235**
Manufacturer code: **89235**



Descrizione:
Punta elicoidale extracorta HM lucida, DIN 6539 N, codolo cilindrico, elica Standard, per materiali duri e abrasivi, metalli leggeri e non ferrosi su torni automatici ed a torretta.

HM bright stub drill, DIN 6539 N, Standard helix, for hard and abrasive materials, light and non ferrous metals for use on automatics and turret lathes.

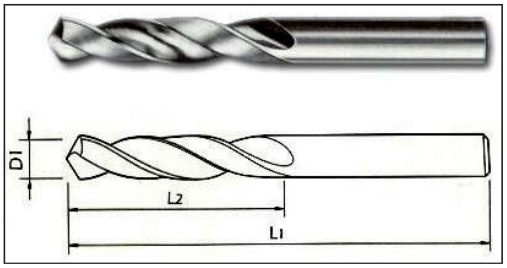
ART. 11328

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11328037	**2,00**	38	12	11328262	**4,60**	58	24	11328479	**7,20**	74	34
11328041	**2,10**	38	12	11328271	**4,70**	58	24	11328484	**7,30**	74	34
11328046	**2,20**	40	13	11328280	**4,80**	62	26	11328489	**7,40**	74	34
11328055	**2,30**	40	13	11328289	**4,90**	62	26	11328496	**7,50**	74	34
11328064	**2,40**	43	14	11328298	**5,00**	62	26	11328515	**7,80**	79	37
11328073	**2,50**	43	14	11328307	**5,10**	62	26	11328523	**8,00**	79	37
11328082	**2,60**	43	14	11328316	**5,20**	62	26	11328541	**8,50**	79	37
11328091	**2,70**	46	16	11328325	**5,30**	62	26	11328545	**8,70**	84	40
11328100	**2,80**	46	16	11328329	**5,40**	66	28	11328548	**8,80**	84	40
11328109	**2,90**	46	16	11328343	**5,50**	66	28	11328559	**9,00**	84	40
11328118	**3,00**	46	16	11328348	**5,60**	66	28	11328562	**9,10**	84	40
11328127	**3,10**	49	18	11328352	**5,70**	66	28	11328565	**9,30**	84	40
11328136	**3,20**	49	18	11328361	**5,80**	66	28	11328568	**9,40**	84	40
11328145	**3,30**	49	18	11328370	**5,90**	66	28	11328577	**9,50**	84	40
11328154	**3,40**	52	20	11328379	**6,00**	66	28	11328591	**9,90**	89	43
11328163	**3,50**	52	20	11328388	**6,10**	70	31	11328595	**10,00**	89	43
11328172	**3,60**	52	20	11328397	**6,20**	70	31	11328604	**10,20**	89	43
11328181	**3,70**	52	20	11328406	**6,30**	70	31	11328613	**10,50**	89	43
11328190	**3,80**	55	22	11328415	**6,40**	70	31	11328622	**11,00**	95	47
11328199	**3,90**	55	22	11328424	**6,50**	70	31	11328631	**11,50**	95	47
11328208	**4,00**	55	22	11328433	**6,60**	70	31	11328640	**12,00**	102	51
11328217	**4,10**	55	22	11328442	**6,70**	70	31	11328649	**13,00**	102	51
11328226	**4,20**	55	22	11328451	**6,80**	74	34	11328658	**14,00**	107	54
11328235	**4,30**	58	24	11328460	**6,90**	74	34	11328667	**15,00**	111	56
11328244	**4,40**	58	24	11328469	**7,00**	74	34	11328676	**16,00**	115	58
11328253	**4,50**	58	24	11328474	**7,10**	74	34				

Punta extracorta HM, DIN 6539, elica Std.
HM stub drill, DIN 6539, Std. helix

Art. 11330 GnuBo



ART. 11330

Dati tecnici / Technical data

cod. code	D1 [mm]	L1 [mm]	L2 [mm]
11330685	**17,00**	123	62
11330694	**18,00**	123	62
11330703	**19,00**	127	64
11330712	**20,00**	131	66

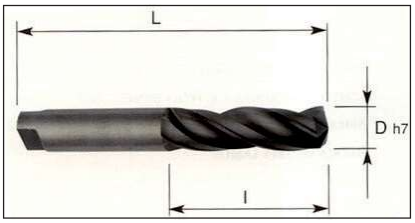
Descrizione:
Punta elicoidale extracorta HM lucida, DIN 6539, codolo cilindrico, elica Standard per materiali duri e abrasivi, metalli leggeri e non ferrosi.

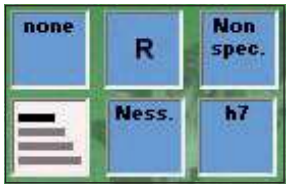
HM bright stub drill, DIN 6539, Standard helix for hard and abrasive materials, light and non ferrous metals.

Punte - Punte extracorte in HM, riporto HM - Punte lunghe in HSS/HSS-Co

Punta a tre eliche extracorta HM
HM, three flutes stub drill

Art. 11380 GnuBo





Descrizione:
Punta a tre eliche extracorta HM lucida, codolo cilindrico. Elica Standard 30°, per acciai, ghise e materiali non ferrosi.

HM bright three flutes stub drill. Standard helix 30°, for steel, cast iron and non ferrous materials.

ART. 11380
Dati tecnici / Technical data

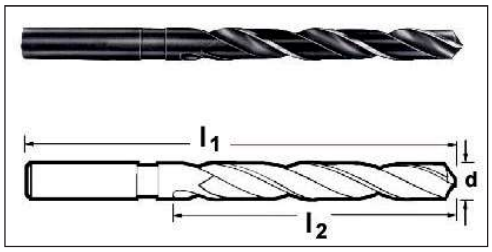
cod. code	D h7 [mm]	L [mm]	l [mm]	Z [mm]	cod. code	D h7 [mm]	L [mm]	l [mm]	Z [mm]
11380020	**2**	38	12	3	11380052	**5,2**	62	26	3
11380025	**2,5**	43	14	3	11380055	**5,5**	66	28	3
11380026	**2,6**	43	14	3	11380060	**6,0**	66	28	3
11380028	**2,8**	46	16	3	11380062	**6,2**	70	31	3
11380030	**3,0**	46	16	3	11380065	**6,5**	70	31	3
11380035	**3,5**	52	20	3	11380070	**7,0**	74	34	3
11380040	**4,0**	55	22	3	11380075	**7,5**	74	34	3
11380042	**4,2**	55	22	3	11380080	**8,0**	79	37	3
11380045	**4,5**	58	24	3	11380085	**8,5**	79	37	3
11380050	**5,0**	62	26	3	11380090	**9,0**	84	40	3
11380051	**5,1**	62	26	3					

Punte - Punte lunghe in HSS/HSS-Co

Punta lunga HSS, DIN 340, elica Std.
HSS long series drill, DIN 340, Std. helix

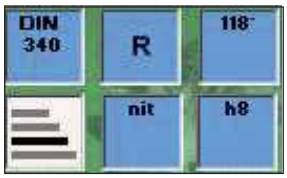
Art. 11411 CLEVELAND

Cod. Fornitore: **2503**
Manufacturer code: **2503**



Descrizione:
Punta elicoidale lunga HSS nitrurata, DIN 340, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciaio e ghisa per fori profondi e per foratura con bussola guida.

HSS nitrided long series drill, DIN 340, Standard helix. General purpose drill for steel and cast iron for deep holes or through drill bushings.



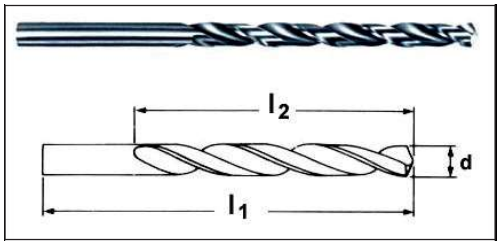
ART. 11411
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11411021	**1,00**	56	33	11411165	**3,30**	106	69	11411301	**5,90**	139	91
11411025	**1,10**	60	37	11411169	**3,40**	112	73	11411309	**6,00**	139	91
11411029	**1,20**	65	41	11411173	**3,50**	112	73	11411317	**6,10**	148	97
11411033	**1,30**	65	41	11411181	**3,60**	112	73	11411325	**6,20**	148	97
11411037	**1,40**	70	45	11411181	**3,80**	119	78	11411337	**6,30**	148	97
11411049	**1,50**	70	45	11411185	**3,90**	119	78	11411341	**6,50**	148	97
11411047	**1,60**	76	50	11411189	**4,00**	119	78	11411349	**6,80**	156	102
11411049	**1,80**	80	53	11411197	**4,10**	119	78	11411357	**7,00**	156	102
11411049	**1,90**	80	53	11411205	**4,20**	119	78	11411381	**7,50**	156	102
11411061	**2,00**	85	56	11411213	**4,30**	126	82	11411405	**8,00**	165	109
11411069	**2,10**	85	56	11411221	**4,50**	126	82	11411421	**8,50**	165	109
11411077	**2,20**	90	59	11411223	**4,60**	126	82	11411453	**9,00**	175	115
11411093	**2,30**	90	59	11411229	**4,80**	132	87	11411469	**9,50**	175	115
11411101	**2,40**	95	62	11411237	**5,00**	132	87	11411485	**10,00**	184	121
11411109	**2,50**	95	62	11411245	**5,10**	132	87	11411493	**10,20**	184	121
11411115	**2,70**	100	66	11411253	**5,20**	132	87	11411509	**10,50**	184	121
11411125	**2,80**	100	66	11411265	**5,30**	132	87	11411533	**11,00**	195	128
11411133	**2,90**	100	66	11411269	**5,40**	139	91	11411549	**11,50**	195	128
11411141	**3,00**	100	66	11411277	**5,50**	139	91	11411565	**12,00**	205	134
11411149	**3,10**	106	69	11411285	**5,70**	139	91	11411581	**12,50**	205	134
11411157	**3,20**	106	69	11411293	**5,80**	139	91	11411597	**13,00**	205	134

Punta lunga HSS, DIN 340, elica Std.
HSS long series drill, DIN 340, Std. helix

Art. 11413 HARTNER

Cod. Fornitore: **81310**
Manufacturer code: **81310**



Descrizione:
Punta lunga HSS lucida, DIN 340 N, elica Standard. Punta di utilizzo generale per acciaio e ghisa per fori profondi e per foratura con bussola guida.

HSS bright long series drill, DIN 340 N, Standard helix. General purpose drill for steel and cast iron for deep holes or through drill bushings.

ART. 11413

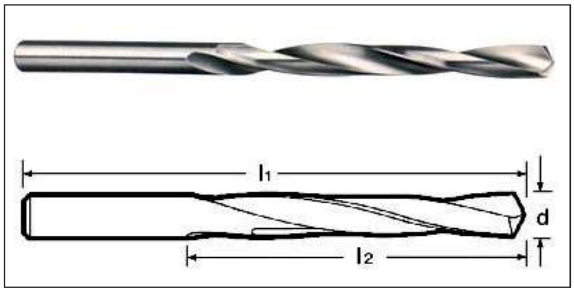
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11413021	**1,00**	56	33	11413189	**4,00**	119	78	11413405	**8,00**	165	109
11413025	**1,10**	60	37	11413197	**4,10**	119	78	11413407	**8,10**	165	109
11413029	**1,20**	65	41	11413205	**4,20**	119	78	11413421	**8,50**	165	109
11413033	**1,30**	65	41	11413213	**4,30**	126	82	11413453	**9,00**	175	115
11413037	**1,40**	70	45	11413221	**4,50**	126	82	11413465	**9,30**	175	115
11413045	**1,50**	70	45	11413223	**4,60**	126	82	11413469	**9,50**	175	115
11413047	**1,60**	76	50	11413229	**4,80**	132	87	11413477	**9,80**	184	121
11413049	**1,80**	80	53	11413237	**5,00**	132	87	11413485	**10,00**	184	121
11413055	**1,90**	80	53	11413245	**5,10**	132	87	11413489	**10,10**	184	121
11413061	**2,00**	80	53	11413253	**5,20**	132	87	11413493	**10,20**	184	121
11413069	**2,10**	85	56	11413265	**5,30**	132	87	11413509	**10,50**	195	128
11413077	**2,20**	90	59	11413269	**5,40**	139	91	11413533	**11,00**	195	128
11413093	**2,30**	90	59	11413277	**5,50**	139	91	11413549	**11,50**	195	128
11413101	**2,40**	95	62	11413285	**5,70**	139	91	11413558	**11,80**	195	128
11413109	**2,50**	95	62	11413293	**5,80**	139	91	11413565	**12,00**	205	134
11413125	**2,80**	100	66	11413301	**5,90**	139	91	11413581	**12,50**	205	134
11413133	**2,90**	100	66	11413309	**6,00**	139	91	11413597	**13,00**	205	134
11413141	**3,00**	100	66	11413317	**6,10**	148	97	11413605	**13,50**	214	140
11413149	**3,10**	106	69	11413325	**6,20**	148	97	11413621	**14,00**	214	140
11413157	**3,20**	106	69	11413337	**6,30**	148	97	11413629	**14,50**	220	144
11413165	**3,30**	106	69	11413341	**6,50**	148	97	11413645	**15,00**	220	144
11413169	**3,40**	112	73	11413349	**6,80**	156	102	11413669	**16,00**	227	149
11413173	**3,50**	112	73	11413357	**7,00**	156	102	11413701	**17,00**	235	154
11413177	**3,60**	112	73	11413381	**7,50**	156	102	11413717	**18,00**	241	158
11413181	**3,80**	119	78	11413389	**7,80**	165	109	11413733	**19,00**	247	162
11413185	**3,90**	119	78	11413397	**7,90**	165	109	11413757	**20,00**	254	166

Punta lunga HSS, DIN 340, elica L per ottone
HSS long series drill, DIN 340, L helix for brass

Art. 11422 HARTNER

Cod. Fornitore: **81320**
Manufacturer code: **81320**



Descrizione:
Punta elicoidale lunga HSS lucida, DIN 340 H, codolo cilindrico, elica Low per ottone e materiali fragili a truciolo corto per fori profondi e per foratura con bussola guida.

HSS bright long series drill, DIN 340 H, Low helix for brass and brittle short-chipping materials for deep holes or through drill bushings.

ART. 11422

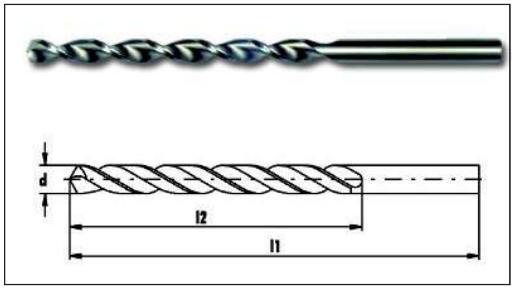
Dati tecnici / Technical data

cod. code	d [mm]	l1 [mm]	l2 [mm]	cod. code	d [mm]	l1 [mm]	l2 [mm]
11422047	**2,00**	85	56	11422245	**4,60**	126	82
11422056	**2,20**	90	59	11422272	**5,00**	132	87
11422065	**2,30**	90	59	11422281	**5,20**	132	87
11422074	**2,50**	95	62	11422290	**5,30**	132	87
11422083	**2,60**	95	62	11422299	**5,40**	139	91
11422092	**2,70**	100	66	11422308	**5,50**	139	91
11422101	**2,80**	100	66	11422317	**5,80**	139	91
11422110	**3,00**	100	66	11422326	**5,90**	139	91
11422119	**3,10**	106	69	11422335	**6,00**	139	91
11422128	**3,20**	106	69	11422344	**6,20**	148	97
11422137	**3,30**	106	69	11422362	**6,50**	148	97
11422146	**3,40**	112	73	11422380	**6,70**	148	97
11422155	**3,50**	112	73	11422389	**6,80**	156	102
11422164	**3,60**	112	73	11422398	**7,00**	156	102
11422177	**3,80**	119	78	11422425	**7,50**	156	102
11422182	**3,90**	119	78	11422443	**8,00**	165	109
11422191	**4,00**	119	78	11422479	**9,00**	175	115
11422200	**4,10**	119	78	11422515	**10,00**	184	121
11422209	**4,20**	119	78	11422587	**14,50**	220	144
11422236	**4,50**	126	82				

Punta lunga HSS-Co, DIN 340, elica XT H
HSS-Co long series drill, DIN 340, H XT helix

Art. 11434 CLEVELAND

Cod. Fornitore: **2583**
Manufacturer code: **2583**



Descrizione:
Punta elicoidale lunga HSS-Co bronzata, DIN 340, codolo cilindrico, elica XT High per acciaio e materiali a truciolo lungo con resistenza a trazione fino a 1300 N/mm².

HSS-Co bronze long series drill, DIN 340, High XT helix for steel and long-chipping materials with tensile stress up to 1300 N/mm².

ART. 11434

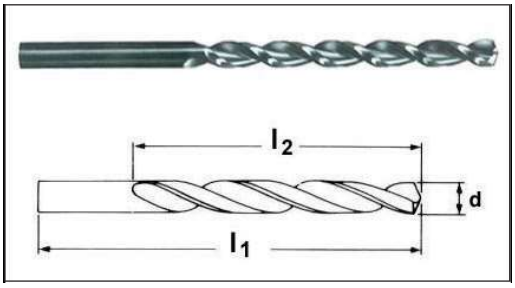
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11434043	**2,00**	85	56	11434267	**5,50**	139	91
11434059	**2,50**	95	62	11434315	**6,00**	139	91
11434091	**2,80**	100	66	11434331	**6,50**	148	97
11434107	**3,00**	100	66	11434347	**7,00**	156	102
11434123	**3,10**	106	69	11434363	**7,50**	156	102
11434155	**3,30**	106	69	11434379	**8,00**	165	109
11434171	**3,50**	112	73	11434395	**8,50**	165	109
11434203	**4,00**	119	78	11434411	**9,00**	175	115
11434209	**4,20**	119	78	11434427	**9,50**	175	115
11434219	**4,50**	126	82	11434443	**10,00**	184	121
11434235	**5,00**	132	87	11434475	**11,00**	195	128

Punta lunga HSS-Co, DIN 340, elica XT H
HSS-Co long series drill, DIN 340, H XT helix

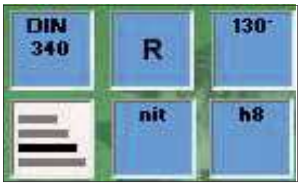
Art. 11436 HARTNER

Cod. Fornitore: **81341**
Manufacturer code: **81341**



Descrizione:
Punta elicoidale lunga HSS-Co nitrurata dal diametro 2,36 mm, DIN 340, codolo cilindrico, elica XT High per ghisa grigia e acciai con resistenza a trazione fino a 1000 N/mm².

HSS-Co nitrided from diameter mm 2,36 long series drill, DIN 340, High XT helix for cast iron and steel with tensile stress up to 1000 N/mm².



ART. 11436

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11436043	**2,00**	85	56	11436315	**6,00**	139	91
11436059	**2,50**	95	62	11436331	**6,50**	148	97
11436091	**2,80**	100	66	11436347	**7,00**	156	102
11436107	**3,00**	100	66	11436363	**7,50**	156	102
11436123	**3,10**	106	69	11436379	**8,00**	165	109
11436155	**3,30**	106	69	11436443	**10,00**	184	121
11436171	**3,50**	112	73	11436459	**10,50**	184	121
11436203	**4,00**	119	78	11436475	**11,00**	195	128
11436209	**4,20**	119	78	11436491	**11,50**	195	128
11436219	**4,50**	126	82	11436507	**12,00**	205	134
11436235	**5,00**	132	87	11436539	**13,00**	205	134
11436267	**5,50**	139	91				

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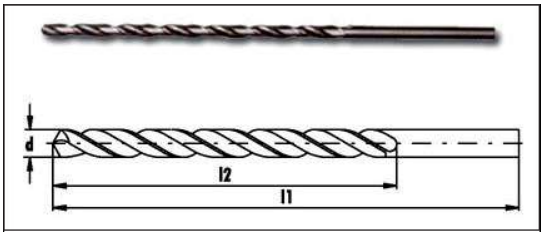
Punta extralunga HSS, DIN 1869, elica Std.
HSS extra length drill, DIN 1869, Std. Helix

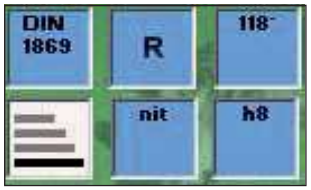
Art. 11460 HARTNER

Cod. Fornitore: **81410**
Manufacturer code: **81410**



Descrizione:
Punta elicoidale extralunga HSS nitrurata, DIN 1869 N, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciaio e ghisa.

HSS nitrided extra length drill, DIN 1869 N, Standard helix. General purpose drill for steel and cast iron.



ART. 11460

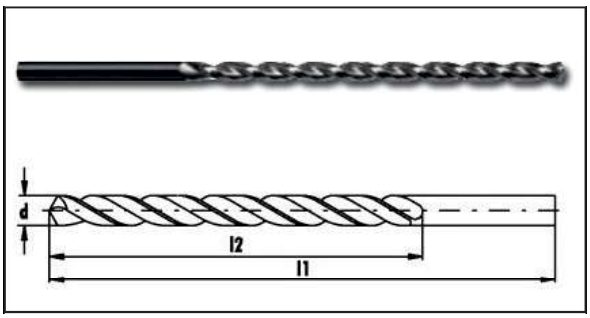
Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11460200	**2,00**	125	85	11460330	**4,60**	185	125	11460435	**6,70**	215	150
11460210	**2,20**	135	90	11460335	**4,70**	185	125	11460440	**6,80**	225	155
11460225	**2,50**	140	95	11460340	**4,80**	195	135	11460450	**7,00**	225	155
11460250	**3,00**	150	100	11460350	**5,00**	195	135	11460470	**7,50**	225	155
11460260	**3,20**	155	105	11460355	**5,10**	195	135	11460490	**8,00**	225	155
11460265	**3,30**	155	105	11460360	**5,20**	195	135	11460510	**8,50**	240	165
11460270	**3,40**	165	115	11460365	**5,30**	195	135	11460530	**9,00**	250	175
11460275	**3,50**	165	115	11460375	**5,50**	195	135	11460550	**9,50**	250	175
11460285	**3,70**	165	115	11460385	**5,70**	195	135	11460570	**10,00**	265	185
11460290	**3,80**	175	120	11460390	**5,80**	195	135	11460590	**10,20**	265	185
11460300	**4,00**	175	120	11460395	**5,90**	195	135	11460610	**10,50**	265	185
11460305	**4,10**	175	120	11460400	**6,00**	205	140	11460630	**11,00**	280	195
11460310	**4,20**	175	120	11460405	**6,10**	215	150	11460650	**11,50**	280	195
11460315	**4,30**	185	125	11460410	**6,20**	215	150	11460670	**12,00**	295	205
11460320	**4,40**	185	125	11460415	**6,30**	215	150	11460690	**12,50**	295	205
11460325	**4,50**	185	125	11460425	**6,50**	215	150	11460710	**13,00**	295	205

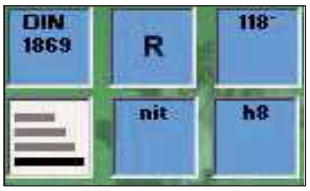
Punta extralunga HSS, DIN 1869, elica XT H
HSS extra length drill, DIN 1869, H XT helix

Art. 11465 HARTNER

Cod. Fornitore: **81440**
Manufacturer code: **81440**



Descrizione:
Punta elicoidale extralunga HSS, nitrurata sulle facce per diametri maggiori di mm 2,36, DIN 1869, codolo cilindrico, elica XT High per condizioni di taglio difficili, foratura profonda. Per acciaio, ghisa e altri materiali con resistenza a trazione fino a 1000 N/mm²; non raccomandata per acciai al nichel-cromo e simili.



HSS extra length drill, with nitrided lands from diameter mm 2,36, DIN 1869, High XT helix for difficult drilling conditions, deep holes. For steel, cast iron and other materials with tensile stress up to 1000 N/mm²; not recommended for nikel-chrome steels and similar.

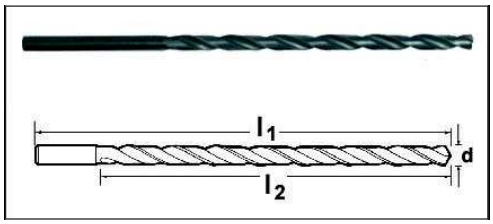
ART. 11465

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11465200	**2,00**	125	85	11465340	**4,80**	195	135	11465510	**8,50**	240	165
11465225	**2,50**	140	95	11465350	**5,00**	195	135	11465530	**9,00**	250	175
11465250	**3,00**	150	100	11465360	**5,20**	195	135	11465550	**9,50**	250	175
11465260	**3,20**	155	105	11465375	**5,50**	195	135	11465570	**10,00**	265	185
11465265	**3,30**	155	105	11465390	**5,80**	195	135	11465590	**10,20**	265	185
11465275	**3,50**	165	115	11465400	**6,00**	205	140	11465610	**10,50**	265	185
11465285	**3,70**	165	115	11465415	**6,30**	215	150	11465630	**11,00**	280	195
11465290	**3,80**	175	120	11465425	**6,50**	215	150	11465650	**11,50**	280	195
11465300	**4,00**	175	120	11465440	**6,80**	225	155	11465670	**12,00**	295	205
11465310	**4,20**	175	120	11465450	**7,00**	225	155	11465690	**12,50**	295	205
11465325	**4,50**	185	125	11465470	**7,50**	225	155	11465710	**13,00**	295	205
				11465490	**8,00**	225	155				

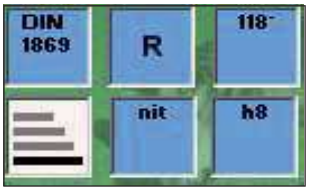
Punta extralunga HSS, DIN 1869, elica Std.
HSS extra length drill, DIN 1869, Std. helix

Art. 11474 HARTNER



ART. 11474			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11474057	**3,00**	190	130
11474079	**3,50**	210	145
11474101	**4,00**	220	150
11474123	**4,50**	235	160
11474145	**5,00**	245	170
11474167	**5,50**	260	180
11474189	**6,00**	260	180
11474211	**6,50**	275	190
11474233	**7,00**	290	200
11474277	**8,00**	305	210
11474321	**9,00**	320	220
11474365	**10,00**	340	235
11474395	**12,00**	375	260

Cod. Fornitore: **81510**
Manufacturer code: **81510**

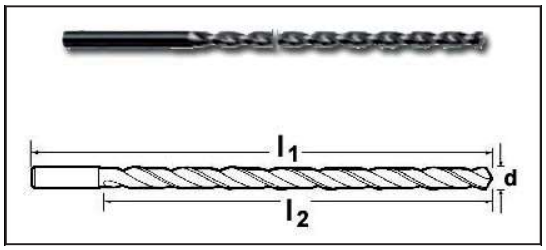


Descrizione:
Punta elicoidale extralunga HSS nitrurata, DIN 1869 N, codolo cilindrico, elica Standard. Punta di utilizzo generale per acciaio e ghisa.

HSS nitrided extra length drill, DIN 1869 N, Standard helix. General purpose drill for steel and cast iron.

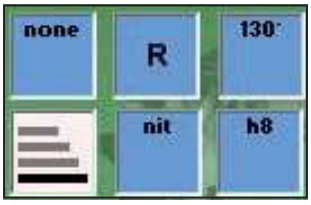
Punta extralunga HSS, elica XT H
HSS extra length drill, H XT helix

Art. 11488 HARTNER



ART. 11488			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11488060	**6,00**	500	400
11488080	**8,00**	500	400
11488100	**10,00**	600	500
11488120	**12,00**	600	500

Cod. Fornitore: **81740**
Manufacturer code: **81740**

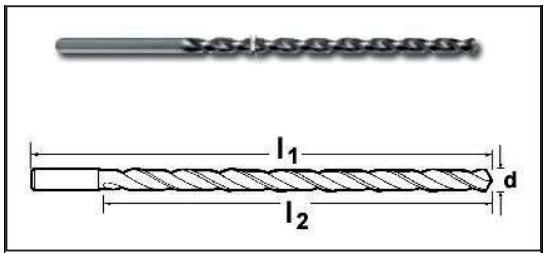


Descrizione:
Punta elicoidale extralunga HSS nitrurata sulle facce, codolo cilindrico, elica XT High per condizioni di taglio difficili, foratura profonda. Per acciaio, ghisa e altri materiali con resistenza a trazione fino a 1000 N/mm²; non raccomandata per acciai al nichel-cromo e simili.

HSS extra length drill, with nitrided lands, High XT helix for difficult drilling conditions, deep holes. For steel, cast iron and other materials with tensile stress up to 1000 N/mm²; not recommended for nikel-chrome steels and similar.

Punta extralunga HSS, elica XT H
HSS extra length drill, H XT helix

Art. 11492 HARTNER



ART. 11492			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11492100	**10,00**	750	650
11492120	**12,00**	750	650

Cod. Fornitore: **81750**
Manufacturer code: **81750**

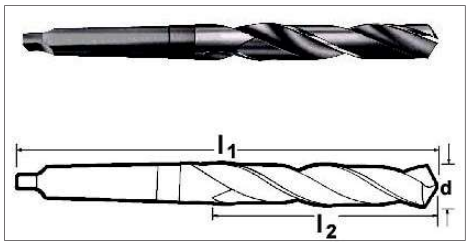
Descrizione:
Punta elicoidale extralunga HSS, codolo cilindrico, elica XT High per condizioni di taglio difficili, foratura profonda. Per acciaio, ghisa e altri materiali con resistenza a trazione fino a 1000 N/mm²; non raccomandata per acciai al nichel-cromo e simili.

HSS extra length drill, High XT helix for difficult drilling conditions, deep holes. For steel, cast iron and other materials with tensile stress up to 1000 N/mm²; not recommended for nikel-chrome steels and similar.

Punta lunga HSS, DIN 345, codolo conico, elica Std.
HSS long taper shank drill, DIN 345, Std. helix

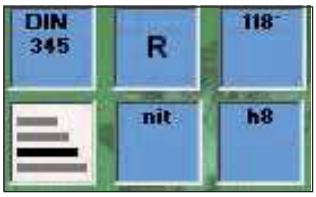
Art. 11518 CLEVELAND

Cod. Fornitore: **2608**
Manufacturer code: **2608**



Descrizione:
Punta elicoidale lunga HSS nitrurata, DIN 345, codolo conico, elica Standard. Punta di utilizzo generale per acciaio e ghisa.

HSS nitrided long taper shank drill, DIN 345, Standard helix. General purpose drill for steel and cast iron.



ART. 11518

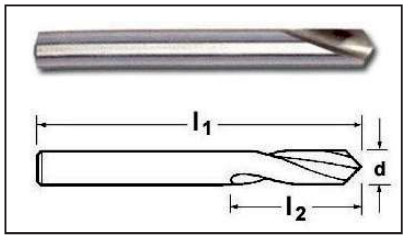
** : articoli ad esaurimento - exhaustion of this item in stock*

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	CM	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	CM	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	CM
11518099	**5,00**	133	52	1	11518381	**18,75**	233	135	2	11518657	**34,00**	339	190	4
11518105	**5,50**	138	57	1	11518387	**19,00**	233	135	2	11518663	**34,50**	339	190	4
11518111	**6,00**	138	57	1	11518393	**19,25**	238	140	2	11518669	**35,00**	339	190	4
11518117	**6,50**	144	63	1	11518399	**19,50**	238	140	2	11518675	**35,50**	339	190	4
11518123	**7,00**	150	69	1	11518411	**20,00**	238	140	2	11518681	**36,00**	344	195	4
11518129*	**7,50**	150	69	1	11518423	**20,50**	243	145	2	11518687	**36,50**	344	195	4
11518135	**8,00**	156	75	1	11518435	**21,00**	243	145	2	11518693	**37,00**	344	195	4
11518141*	**8,25**	156	75	1	11518441	**21,50**	248	150	2	11518699	**37,50**	344	195	4
11518147	**8,50**	156	75	1	11518447	**21,75**	248	150	2	11518705	**38,00**	349	200	4
11518153*	**8,75**	162	81	1	11518453	**22,00**	248	150	2	11518711	**38,50**	349	200	4
11518159	**9,00**	162	81	1	11518465	**22,50**	253	155	2	11518717	**39,00**	349	200	4
11518165	**9,50**	162	81	1	11518477	**23,00**	253	155	2	11518723	**39,50**	349	200	4
11518171*	**9,75**	168	87	1	11518483	**23,50**	276	155	3	11518729	**40,00**	349	200	4
11518177*	**9,90**	168	87	1	11518489	**23,75**	281	160	3	11518735	**40,50**	354	205	4
11518183	**10,00**	168	87	1	11518495	**24,00**	281	160	3	11518741	**41,00**	354	205	4
11518195	**10,50**	168	87	1	11518501	**24,25**	281	160	3	11518747	**41,50**	354	205	4
11518201*	**10,75**	175	94	1	11518507	**24,50**	281	160	3	11518753	**42,00**	354	205	4
11518207	**11,00**	175	94	1	11518513	**24,75**	281	160	3	11518759	**42,50**	354	205	4
11518213	**11,50**	175	94	1	11518519	**25,00**	281	160	3	11518765	**43,00**	359	210	4
11518219	**12,00**	182	101	1	11518525	**25,50**	286	165	3	11518771	**43,50**	359	210	4
11518225*	**12,25**	182	101	1	11518531	**25,75**	286	165	3	11518777	**44,00**	359	210	4
11518231	**12,50**	182	101	1	11518537	**26,00**	286	165	3	11518783	**44,50**	359	210	4
11518237*	**12,75**	182	101	1	11518543	**26,50**	286	165	3	11518789	**45,00**	359	210	4
11518243	**13,00**	182	101	1	11518549	**26,75**	291	170	3	11518795	**45,50**	364	215	4
11518249*	**13,25**	189	108	1	11518555	**27,00**	291	170	3	11518801	**46,00**	364	215	4
11518255	**13,50**	189	108	1	11518561	**27,50**	291	170	3	11518807	**46,50**	364	215	4
11518267	**14,00**	189	108	1	11518567	**27,75**	291	170	3	11518813	**47,00**	364	215	4
11518279	**14,50**	212	114	2	11518573	**28,00**	291	170	3	11518819	**47,50**	364	215	4
11518291	**15,00**	212	114	2	11518579	**28,50**	296	175	3	11518825	**48,00**	369	220	4
11518303	**15,50**	218	120	2	11518585	**28,75**	296	175	3	11518831	**48,50**	369	220	4
11518309	**15,75**	218	120	2	11518591	**29,00**	296	175	3	11518837	**49,00**	369	220	4
11518315	**16,00**	218	120	2	11518597	**29,50**	296	175	3	11518843	**49,50**	369	220	4
11518327	**16,50**	223	125	2	11518609	**30,00**	296	175	3	11518849	**50,00**	369	220	4
11518333	**16,75**	223	125	2	11518615	**30,50**	301	180	3	11518855	**52,00**	412	225	5
11518339	**17,00**	223	125	2	11518621	**31,00**	301	180	3	11518861	**53,00**	412	225	5
11518351	**17,50**	228	130	2	11518627	**31,50**	301	180	3	11518867	**54,00**	417	230	5
11518363	**18,00**	228	130	2	11518633	**32,00**	334	185	4	11518879	**56,00**	417	230	5
11518369	**18,25**	233	135	2	11518639	**32,50**	334	185	4	11518885	**58,00**	422	235	5
11518375	**18,50**	233	135	2	11518645	**33,00**	334	185	4	11518891	**60,00**	422	235	5
					11518651	**33,50**	334	185	4	11518897	**65,00**	432	245	5

Punta da centri extracorta HSS-Co per CNC, 120°
HSS-Co centre twist drill for NC machines, 120°

Art. 11607 HARTNER



Cod. Fornitore: **81191**
Manufacturer code: **81191**

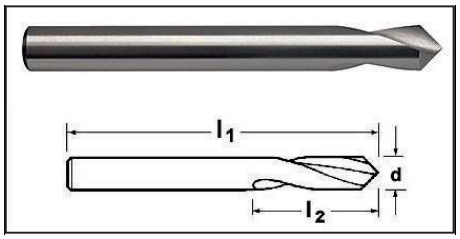
ART. 11607			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11607030	**3**	45	12
11607061	**4**	55	12
11607092	**5**	62	14
11607123	**6**	66	16
11607154	**8**	79	21
11607173	**10**	89	25
11607216	**12**	102	30
11607247	**16**	115	38
11607278	**20**	131	45
11607309	**25**	151	53

Descrizione:
Punta da centri elicoidale extracorta HSS-Co lucida con angolo al vertice 120°. Adatta per macchine a CN. Non adatta per fori profondi.

HSS-Co bright centre twist drill for precisely positioned drilling on NC machines with point angle 120°. Not suitable for deep holes.

Punta da centri extracorta HSS-Co per CNC, 90°
HSS-Co centre twist drill for NC machines, 90°

Art. 11609 HARTNER



Cod. Fornitore: **81192**
Manufacturer code: **81192**

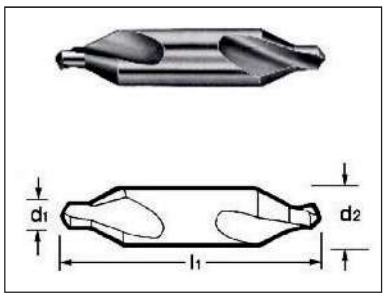
ART. 11609			
Dati tecnici / Technical data			
cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11609060	**6**	66	16
11609080	**8**	79	21
11609100	**10**	89	25
11609120	**12**	102	30

Descrizione:
Punta da centri elicoidale extracorta HSS-Co lucida con angolo al vertice 90°. Adatta per macchine a CN. Non adatta per fori profondi.

HSS-Co bright centre twist drill for precisely positioned drilling on NC machines with point angle 90°. Not suitable for deep holes.

Punta da centri HSS, DIN 333 forma A, 60°
HSS centre drill, DIN 333 form A, 60°

Art. 11621 CLEVELAND



Cod. Fornitore: **2663**
Manufacturer code: **2663**

ART. 11621			
Dati tecnici / Technical data			
cod. code	d_1 [mm]	d_2 [mm]	l_1 [mm]
11621021	1,00	**3,15**	31,5
11621062	1,60	**4,00**	35,5
11621103	2,00	**5,00**	40,0
11621144	2,50	**6,30**	45,0
11621185	3,15	**8,00**	50,0
11621226	4,00	**10,00**	56,0
11621267	5,00	**12,50**	63,0
11621308	8,00	**20,00**	80,0

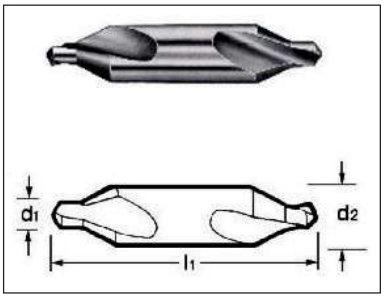
Descrizione:
Punta da centri HSS lucida con angolo di svasatura a 60°, DIN 333 forma A.

HSS bright centre drill with countersink angle 60°, DIN 333 form A.

Punta da centri HSS, DIN 333 forma A, 60°
HSS centre drill, DIN 333 form A, 60°

Cod. Fornitore: **83100**
Manufacturer code: **83100**

Art. 11623 HARTNER



Descrizione:
Punta da centri HSS lucida con angolo di svasatura a 60°, DIN 333 forma A.

HSS bright centre drill with countersink angle 60°, DIN 333 form A.

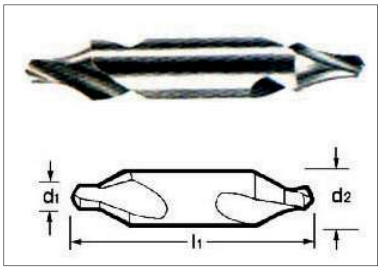
ART. 11623
Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_1 [mm]
11623021	1,00	**3,15**	31,5
11623062	1,60	**4,00**	35,5
11623103	2,00	**5,00**	40,0
11623144	2,50	**6,30**	45,0
11623185	3,15	**8,00**	50,0
11623226	4,00	**10,00**	56,0
11623267	5,00	**12,50**	63,0
11623308	8,00	**20,00**	80,0

Punta da centri HSS, DIN 333 forma R, 60° raggiata
HSS centre drill, DIN 333 form R, 60° with radius

Art. 11629 HARTNER

Cod. Fornitore: **83000**
Manufacturer code: **83000**



Descrizione:
Punta da centri HSS lucida con angolo di svasatura a 60° con raggio, DIN 333 forma R.

HSS bright centre drill with countersink angle 60° with radius, DIN 333 form R.

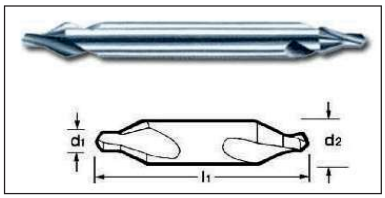
ART. 11629
Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_1 [mm]
11629021	1,00	**3,15**	31,5
11629052	1,60	**4,00**	35,5
11629083	2,00	**5,00**	40,0
11629114	2,50	**6,30**	45,0
11629145	3,15	**8,00**	50,0
11629176	4,00	**10,00**	56,0
11629207	5,00	**12,50**	63,0
11629238	6,30	**16,00**	71,0

Punta da centri lunga HSS, forma A, 60°
HSS long centre drill, form A, 60°

Art. 11637 HARTNER

Cod. Fornitore: **83110**
Manufacturer code: **83110**



Descrizione:
Punta da centri lunga HSS lucida con angolo di svasatura a 60°, forma A.

HSS bright long centre drill with countersink angle 60°, form A.

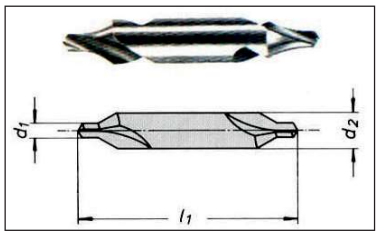
ART. 11637
Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_1 [mm]
11637021	1,00	**4**	120
11637052	1,60	**5**	120
11637083	2,00	**6**	120
11637114	2,50	**8**	120
11637145	3,15	**10**	120

Punta da centri HM, DIN 333 forma A, 60°
HM centre drill, DIN 333 form A, 60°

Art. 11645 HARTNER

Cod. Fornitore: **83370**
Manufacturer code: **83370**



Descrizione:
Punta da centri HM lucida con angolo di svasatura a 60°, DIN 333 forma A.

HM bright centre drill with countersink angle 60°, DIN 333 form A.

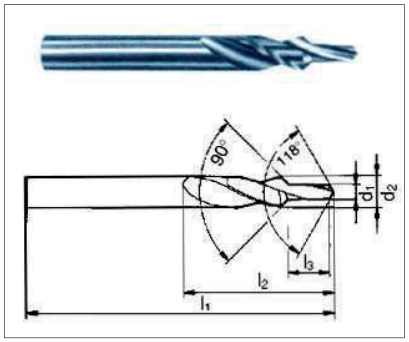
ART. 11645
Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_1 [mm]
11645047	2,00	**5,0**	40
11645078	2,50	**6,3**	45
11645109	3,15	**8,0**	50
11645140	4,00	**10,0**	56
11645171	5,00	**12,5**	63

Punta a gradino corta HSS per fori passanti, 90° HSS jobber step drill for through hole, 90°

Cod. Fornitore: **85916**
Manufacturer code: **85916**

Art. 11651 HARTNER



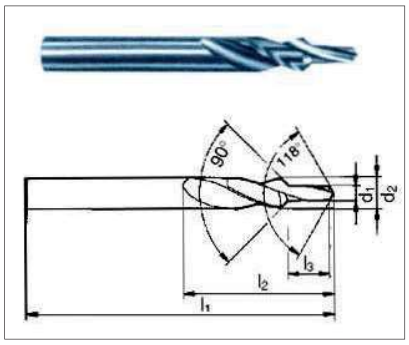
ART. 11651						
Dati tecnici / Technical data						
cod. code	filetto thread	d_2 h6 [mm]	d_1 h9 [mm]	l_1 [mm]	l_2 [mm]	l_3 [mm]
11651030	**M 3**	6	3,2	66	28	9
11651040	**M 4**	8	4,3	79	37	11
11651050	**M 5**	10	5,3	89	43	13
11651060	**M 6**	11,5	6,4	95	47	15
11651080	**M 8**	15	8,4	111	56	19
11651100	**M 10**	19	10,5	127	64	23

Descrizione:
Punta a gradino corta HSS lucida per l'esecuzione di fori passanti e svasature per teste di viti a 90° a norma DIN 74 parte 1. Per viti a norma DIN EN ISO 2009 e 2010. Esecuzione fine. Adatta per macchine a CN.
HSS bright jobber step drill for through hole and for screw seats with countersink 90° DIN 74 part 1. For screws according to DIN EN ISO 2009 and 2010. Fine execution. For CN machines.

Punta a gradino corta HSS per fori passanti, 90° HSS jobber step drill for through hole, 90°

Cod. Fornitore: **85917**
Manufacturer code: **85917**

Art. 11653 HARTNER



ART. 11653						
Dati tecnici / Technical data						
cod. code	filetto thread	d_2 [mm]	d_1 [mm]	l_1 [mm]	l_2 [mm]	l_3 [mm]
11653030	**M 3**	6,6	3,4	70	31	9
11653040	**M 4**	9,0	4,5	84	40	11
11653050	**M 5**	11,0	5,5	95	47	13
11653060	**M 6**	13,0	6,6	102	51	15
11653080	**M 8**	17,2	9,0	123	62	19

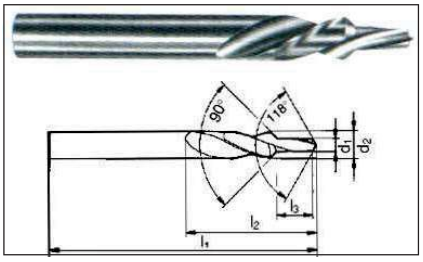
Descrizione:
Punta a gradino corta HSS lucida per l'esecuzione di fori passanti e svasature per teste di viti a 90° a norma DIN 74 parte 1. Per viti a norma DIN EN ISO 10642. Esecuzione media. Adatta per macchine a CN.

HSS bright jobber step drill for through hole and for screw seats with countersink 90° DIN 74 part 1. For screws according to DIN EN ISO 10642. Medium execution. For CN machines.

Punta a gradino corta HSS per prefori di filettatura, 90° HSS jobber step drill for threading hole, 90°

Art. 11664 HARTNER

Cod. Fornitore: **85920**
Manufacturer code: **85920**



ART. 11664						
Dati tecnici / Technical data						
cod. code	filetto thread	d_2 [mm]	d_1 [mm]	l_1 [mm]	l_2 [mm]	l_3 [mm]
11664030	**M 3**	3,4	2,5	52	20	8,8
11664040	**M 4**	4,5	3,3	58	24	11,4
11664050	**M 5**	5,5	4,2	66	28	13,6
11664060	**M 6**	6,6	5,0	70	31	16,5
11664080	**M 8**	9,0	6,8	84	40	21,0
11664100	**M 10**	11,0	8,5	95	47	25,5
11664120	**M 12**	13,5	10,2	107	54	30,0

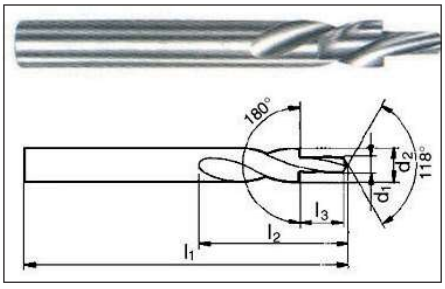
Descrizione:
Punta a gradino corta HSS lucida per l'esecuzione di prefori di filettatura a norma DIN 336 con svasatura a 90°. Esecuzione media. Adatta per macchine a CN.

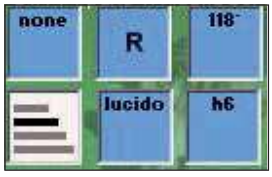
HSS bright jobber step drill for threading hole according to DIN 336 with countersink 90°. Medium execution. For CN machines.

Punta a gradino corta HSS per fori passanti, 180° HSS jobber step drill for through hole, 180°

Art. 11675 HARTNER

Cod. Fornitore: **85918**
Manufacturer code: **85918**



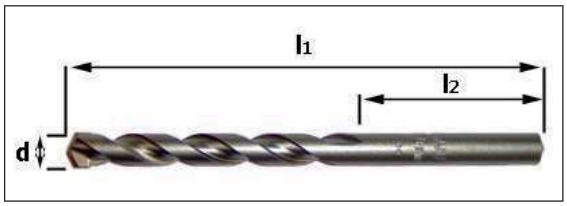


ART. 11675						
Dati tecnici / Technical data						
cod. code	filetto thread	d_2 [mm]	d_1 [mm]	l_1 [mm]	l_2 [mm]	l_3 [mm]
11675030	**M 3**	6	3,4	66	28	9
11675040	**M 4**	8	4,5	76	37	11
11675050	**M 5**	10	5,5	89	43	13
11675060	**M 6**	11	6,6	95	47	15
11675080	**M 8**	15	9,0	111	56	19
11675100	**M 10**	18	11,0	123	62	23

Descrizione:
Punta a gradino corta HSS lucida per l'esecuzione di fori passanti a norma DIN EN 20 273 e svasature per teste di viti a 180° a norma DIN 74 parte 1. Esecuzione media. Adatta per macchine a CN.
HSS bright jobber step drill for through hole DIN EN 20 273, and for screw seats with countersink 180° DIN 74 part 1. Medium execution. For CN machines.

Punta da muro HSS riporto HM
HSS carbide-tipped masonry drill

Art. 11703 GnuBo



Descrizione:
Punta da muro a rotazione e ripercussione HSS con riporto HM, codololo cilindrico.

HSS carbide-tipped masonry drill, cylindrical shank.

ART. 11703

Dati tecnici / Technical data

cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]	cod. code	d [mm]	l_1 [mm]	l_2 [mm]
11703037	**3,00**	70	40	11703217	**8,00**	120	80	11703415	**14,00**	160	110
11703055	**3,50**	75	45	11703235	**8,00**	400	350	11703433	**15,00**	160	110
11703073	**4,00**	80	45	11703271	**9,00**	130	90	11703451	**16,00**	160	110
11703091	**4,50**	85	50	11703289	**9,50**	135	95	11703487	**18,00**	160	110
11703109	**5,00**	90	55	11703307	**10,00**	140	100	11703523	**20,00**	160	110
11703127	**5,50**	95	60	11703325	**10,00**	400	350	11703541	**20,00**	400	350
11703145	**6,00**	100	60	11703343	**11,00**	160	110	11703559	**22,00**	160	110
11703163	**6,50**	105	65	11703361	**12,00**	160	110	11703577	**24,00**	160	110
11703181	**7,00**	110	70	11703379	**12,00**	400	350	11703597	**26,00**	300	240
				11703397	**13,00**	160	100	11703610	**28,00**	400	350

Punta per martelli a percussione SDS-max
HSS carbide-tipped drill for SDS-max hammers

Art. 93965 GnuBo

Art. 93965

Dati tecnici / Technical data

cod. code	diametro diameter [mm]	lunghezza length [mm]	lungh. totale total length [mm]
93965205	**20**	400	520
93965255	**25**	400	520
93965305	**30**	450	570

Descrizione:
Punta per martelli a percussione in HSS con riporto in metallo duro, elica trapezoidale. Adatta per la foratura di agglomerati cementizi, muri, pietre e rocce. Per martelli a percussione con attacco SDS-max, sistema di innesto BOSCH, HILTI, MARTO nonché per altri tipi di martelli con identico sistema di attacco.

HSS carbide-tipped drill for hammers, trapezoidal helix. For drilling concrete, walls, stones, etc.
For SDS-max hammers, BOSCH, HILTI, MARTO ecc. attachment.

Punta per martelli a percussione SDS-plus
HSS carbide-tipped drill for SDS-plus hammers

Art. 93969 GnuBo

Descrizione:
Punta in HSS ad elica trapezoidale con riporto in metallo duro adatta per la foratura di agglomerati cementizi, muri, pietre e rocce, klinker e cemento armato, per martelli a percussione con attacco SDS-Plus.

HSS carbide-tipped drill trapezoidal helix for hammers with SDS-Plus coupling for drilling concrete, walls, stones, etc.

ART. 93969

Dati tecnici / Technical data

cod. code	diam. nominale nominal diam. [mm]	lungh. tot. total length [mm]	lungh. elica helix length [mm]	cod. code	diam. nominale nominal diam. [mm]	lungh. tot. total length [mm]	lungh. elica helix length [mm]
93969087	**4,00**	110	50	93969321	**14,00**	160	100
93969123	**5,00**	110	50	93969339	**14,00**	210	150
93969141	**5,00**	160	100	93969357	**14,00**	300	240
93969159	**6,00**	110	50	93969375	**16,00**	210	150
93969177	**6,00**	160	100	93969393	**16,00**	300	240
93969188	**7,00**	160	100	93969411	**18,00**	210	150
93969195	**8,00**	110	50	93969429	**18,00**	300	240
93969213	**8,00**	210	150	93969447	**20,00**	210	150
93969231	**10,00**	110	50	93969465	**20,00**	300	250
93969249	**10,00**	160	100	93969483	**20,00**	460	400
93969267	**10,00**	260	200	93969501	**22,00**	260	200
93969285	**12,00**	160	100	93969519	**22,00**	460	400
93969303	**12,00**	210	150	93969537	**24,00**	260	200
93969308	**12,00**	260	200	93969555	**24,00**	460	400
				93969573	**25,00**	460	400

Punte - Punte per muro/martelli percussione - Utensili conici a forare

Punta per martelli elettropneumatici SDS-Plus
Drill bit for SDS-Plus hammers

ART. 93973 DEWALT

Descrizione:
Punta per martelli elettropneumatici con attacco SDS-Plus, a testa piena XLR con 4 taglienti in carburo, spirale a 4 canali per un rapida rimozione del materiale, per applicazioni di foratura su cemento armato, pietra, mattoni.

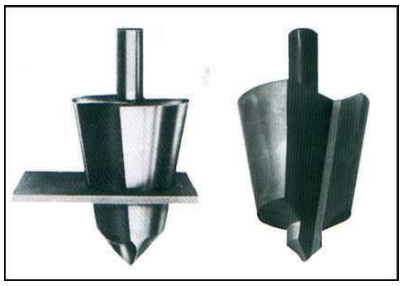
Drill bit for for hammers with SDS-Plus coupling, with full head XLR with 4 hard metal cutting edges, 4 flutes for quick material removing, for drilling reinforced concrete, stone, bricks.

ART. 93973			
Dati tecnici / Technical data			
cod. code	diam. nominale nominal diam. [mm]	lungh. tot. total length [mm]	lungh. elica helix length [mm]
93973052	**5**	110	50
93973055	**5**	160	100
93973062	**6**	110	50
93973065	**6**	160	100
93973068	**6**	210	150
93973082	**8**	110	50
93973085	**8**	210	150
93973105	**10**	160	100
93973108	**10**	210	150
93973125	**12**	160	100
93973128	**12**	200	150

Punte - Utensili conici a forare

Utensile conico a forare HSS
HSS conical boring tool

Art. 11725 GnuBo



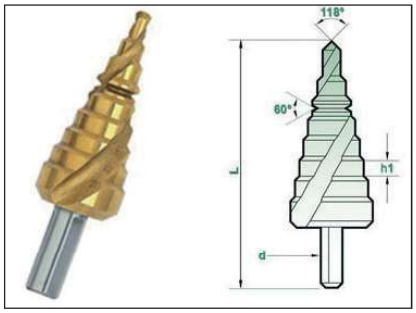
Descrizione:
Utensile conico HSS per la foratura di ogni tipo di materiale piatto e sottile.

HSS conical boring tool for every kind of flat and thin material.

ART. 11725				
Dati tecnici / Technical data				
cod. code	diam. gambo shaft diam. [mm]	lungh. Gambo shaft length [mm]	lungh. tot. total length [mm]	diam. min. - diam. max. min. diam. - max. diam [mm]
11725037	6	25	62	**3 - 14**
11725052	8	25	72	**6 - 20**
11725067	10	25	77	**16 - 30**
11725082	12	25	87	**25 - 40**

Utensile conico a forare multidiametro HSS-Co, ricoperto TiN
HSS-Co multidiameter conical boring tool, TiN coated

Art. 11734 GnuBo



Descrizione:
Utensile conico HSS-Co ricoperto TiN, per forare materiali ferrosi e non ferrosi in differenti diametri. Gambo cilindrico con pianini.

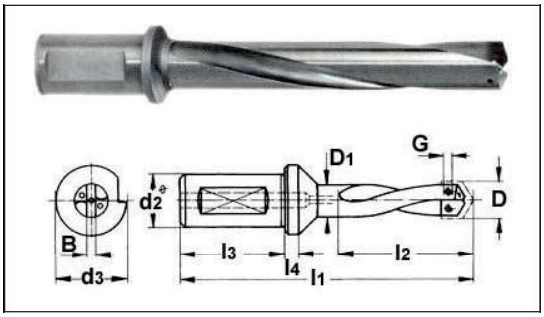
HSS-Co conical boring tool for ferrous and nonferrous materials in different diameters, TiN coated. Cylindrical shaft with planes.

ART. 11734					
Dati tecnici / Technical data					
cod. code	d [mm]	L [mm]	h1 [mm]	capacità range [mm]	diam. gradini steps diam. [mm]
11734400	6	79	5	**4 - 12**	**4**-5-6-7-8-9-10-11-**12**
11734500	10	78	4	**5 - 32,5**	**5**-7,5-9,7-12,7-15,2-16,2-18,6-20,4-22,5-25,4-28,3-30,5-**32,5**
11734600	10	100	4	**6 - 38**	**6**-9-13-16-19-21-23-26-29-32-35-**38**

Punta ad inserti con codolo cilindrico
Insert drill with cylindrical shank

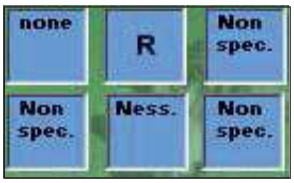
Art. 11760 HARTNER

Cod. Fornitore: **86622**
Manufacturer code: **86622**



Descrizione:
Punta ad inserti con codolo cilindrico con fori di lubrificazione. Profondità di foratura fino a di 5 volte il diametro.

Insert drill with cylindrical shank with lubricant holes. Hole deepness up to diameter x 5 times.



ART. 11760
Dati tecnici / Technical data

cod. code	D_1 [mm]	D [mm]	l_1 [mm]	l_2 [mm]	B [mm]	vite inserto G insert screw G	d_2 [mm]	d_3 [mm]	l_3 [mm]	l_4 [mm]
11760180	**9,50**	9,71 - 11,70	138,5	81,5	2,5	M 2 x 4	20	25	40	5
11760200	**11,50**	11,71 - 13,40	148,5	92,5	2,5	M 2 x 4	20	25	40	5
11760213	**13,00**	13,41 - 16,40	158	102	3,5	M 2,5 x 5	20	25	40	5
11760229	**16,00**	16,41 - 18,90	168	115	3,5	M 2,5 x 7	20	25	40	5
11760245	**18,50**	18,91 - 22,40	177,5	126,5	4	M 3 x 6	20	25	40	5
11760261	**22,00**	22,41 - 25,40	177,5	128,5	4	M 3 x 8	20	25	40	5
11760275	**24,00**	25,41 - 29,00	236	162	5	M 3,5 x 10	32	40	60	5
11760290	**28,00**	29,01 - 35,00	236	166	5	M 3,5 x 10	32	40	60	5

Vite torx per punte ad inserti
Torx screw for insert drills

ART. 11770
Dati tecnici / Technical data

cod. code	misura size	x punte for drills
11770200	**M 2x4**	11760200
11770213	**M 2,5x5**	11760213
11770229	**M 2,5x7**	11760229
11770245	**M 3x6**	11760245
11770261	**M 3x8**	11760261

Art. 11770 HARTNER

Cod. Fornitore: **86807**
Manufacturer code: **86807**

Placchetta con rompitruciolo per punta ad inserti, HSS-Co rivestita Fire
HSS-Co Fire coated insert with chip breaker for insert drill

Art. 11780 HARTNER

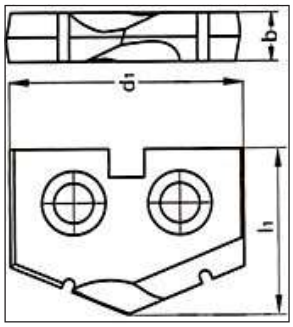
Cod. Fornitore: **86608**
Manufacturer code: **86608**

Descrizione:
Placchetta con rompitruciolo per punta ad inserti, HSS-Co con rivestitimento multistrato TiAlN Fire. Tolleranza 0/+0,05.

HSS-Co Fire TiAlN multicoated insert with chip breaker for insert drill. Tolerance 0/+0,05.

ART. 11780
Dati tecnici / Technical data

cod. code	d1 [mm]	l1 [mm]	b [mm]	cod. code	d1 [mm]	l1 [mm]	b [mm]
11780170	**11,00**	8,7	2,5	11780229	**17,00**	11,7	3,5
11780185	**12,00**	8,7	2,5	11780233	**17,50**	11,7	3,5
11780193	**12,50**	8,7	2,5	11780237	**18,00**	11,7	3,5
11780197	**13,00**	8,7	2,5	11780241	**18,50**	11,7	3,5
11780201	**13,50**	11,7	3,5	11780245	**19,00**	13,7	4,0
11780205	**14,00**	11,7	3,5	11780247	**19,50**	13,7	4,0
11780209	**14,50**	11,7	3,5	11780250	**20,00**	13,7	4,0
11780213	**15,00**	11,7	3,5	11780253	**21,00**	13,7	4,0
11780217	**15,50**	11,7	3,5	11780256	**22,00**	13,7	4,0
11780221	**16,00**	11,7	3,5	11780261	**24,00**	13,7	4,0
11780225	**16,50**	11,7	3,5				



Kit di 50 punte DIN 338 RN, HSS
50 HSS drills set, DIN 338 RN

Art. 11806 CLEVELAND

Cod. Fornitore: **2403-8400**
Manufacturer code: **2403-8400**

Descrizione:
Kit di 50 punte DIN 338 RN, HSS:
n° 2003 (cod. GB 11101) diametri da 1,0 a 5,9 x 0,1 mm.

50 HSS drills set, DIN 338 RN:
n° 2003 (GB code 11101) diameters from 1,0 to 5,9 x 0,1 mm.

Cod.11806403
PUNTE SERIE 1,0 a 5,9 CLE 2403-8400

Kit di 41 punte DIN 338 RN, HSS
41 HSS drills set, DIN 338 RN

Art. 11808 CLEVELAND

Cod. Fornitore: **2403-8403**
Manufacturer code: **2403-8403**

Descrizione:
Kit di 41 punte DIN 338 RN, HSS:
n° 2003 (cod. GB 11101) diametri da 6,0 a 10,0 x 0,1 mm.

41 HSS drills set, DIN 338 RN:
n° 2003 (GB code 11101) diameters from 6,0 to 10,0 x 0,1 mm.

Cod.11808403
PUNTE SERIE 6,0 a 10,0 CLE 2403-8403

Kit di 19 punte DIN 338 RN, HSS
19 HSS drills set, DIN 338 RN

Art. 11810 CLEVELAND

Cod. Fornitore: **2403-8406**
Manufacturer code: **2403-8406**

Descrizione:
Kit di 19 punte DIN 338 RN, HSS:
n° 2003 (cod. GB 11101) diametri da 1,0 a 10,0 x 0,5 mm.

19 HSS drills set, DIN 338 RN:
n° 2003 (GB code 11101) diameters from 1,0 to 10,0 x 0,5 mm.

Cod.11810403
PUNTE SERIE 1,0 a 10,0 CLE 2403-8406

Kit di 25 punte DIN 338 RN, HSS
25 HSS drills set, DIN 338 RN

Art. 11812 CLEVELAND

Cod. Fornitore: **2403-8410**
Manufacturer code: **2403-8410**

Descrizione:
Kit di 25 punte DIN 338 RN, HSS:
n° 2003 (cod. GB 11101) diametri da 1,0 a 13,0 x 0,5 mm.

25 HSS drills set, DIN 338 RN:
n° 2003 (GB code 11101)
diameters from 1,0 to 13,0 x 0,5 mm.

Cod.11812403
PUNTE SERIE 1,0 a 13,0 CLE 2403-8410

Art. 11842 GnuBo

Kit di 7 punte a rotazione e ripercussione HSS con riporto HM
7 HSS carbide-tipped mansonry drills set

Cod.11842034
Kit di 7 punte a rotazione e ripercussione HSS con riporto HM (cod. GB 11703): diametri mm. 4 - 5 - 6 - 7 - 8 - 10 - 12.

7 HSS carbide-tipped mansonry drills set (GB code 11703):diameters mm. 4 - 5 - 6 - 7 - 8 - 10 - 12.

Accessori per punte

Art. 11871 HARTNER

Contenitore per serie di punte
Container for drill set

Cod. Fornitore: **88303**
Manufacturer code: **88303**

Cod.11871303
Descrizione:
Contenitore metallico per serie di 25 punte con diametro da mm 1 a 13 x 0,5.

Metallic container for 25 drill set with diametrer from mm 1 to 13 for 0,5.

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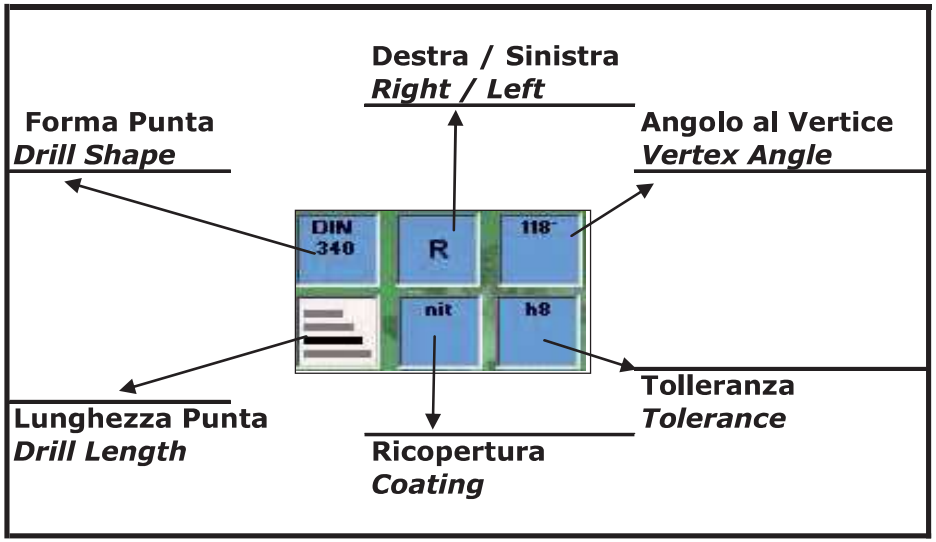
TIPI DI ELICHE

Std	OTT.	INOX	XT33	ALL
Standard	LOW - Lenta	HIGH	XT HIGH	HSP
30° (elica) - 118° (vertice)	15° (elica) - 118° (vertice)	40° (elica) - 130° (vertice)	40° (elica) - 130° (vertice)	40° (elica) - 130° (vertice)
			come INOX ma con scanalature profonde, **per fori profondi** fino a 5 volte il diametro	via di mezzo tra INOX e XT33
ADATTA PER:	ADATTA PER:	ADATTA PER:	ADATTA PER:	ADATTA PER:
Acciaio e Ghisa, media durezza	Materiali duri a truciolo corto	Materiali teneri a truciolo lungo	Materiali teneri a truciolo lungo	Materiali teneri a truciolo lungo
Uso generico	Ottone	Acciaio Inox e Inox austenitico	Per acciai fino a 1300 N/mm^2	Alluminio
Acciai Rm < 1000 N/mm2	Bronzo	Leghe di acciaio resistenti al calore		Rame
Ghisa grigia e malleabile	Leghe di magnesio	Leghe di nichel per lavorazioni plastiche		Plastica
	Plastica	Titanio		
		Rame elettrolitico		

SCOSTAMENTI ISO [mm]
DEVIATIONS ISO [mm]

diametro punta [mm] / drill diameter [mm]		tolleranza [mm] / tolerance [mm] h5	h6	h7	h8
da / from	1,0	0	0	0	0
a / to	3,0	-0,004	-0,006	-0,010	-0,014
da / from	3,0	0	0	0	0
a / to	6,0	-0,005	-0,008	-0,012	-0,018
da / from	6,0	0	0	0	0
a / to	10,0	-0,006	-0,009	-0,015	-0,022
da / from	10,0	0	0	0	0
a / to	18,0	-0,008	-0,011	-0,018	-0,027
da / from	18,0	0	0	0	0
a / to	30,0	-0,009	-0,013	-0,021	-0,033
da / from	30,0	0	0	0	0
a / to	50,0	-0,011	-0,016	-0,025	-0,039
da / from	50,0	0	0	0	0
a / to	80,0	-0,013	-0,019	-0,030	-0,046
da / from	80,0	0	0	0	0
a / to	100,0	-0,015	-0,022	-0,035	-0,054

LEGENDA



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Gnutti Bortolo
INFORMAZIONI TECNICHE

O	OTTIMO VERY GOOD
B	BUONO GOOD

PARAMETRI DI TAGLIO PER PUNTE - CUT PARAMETERS FOR DRILLS

Materiale / Material	Resistenza a trazione / Tensile stress [MPa; N/mm²]	Durezza / Hardness	Refrigerante / Coolant	profondità di foratura / cutting depth: fino a 5 volte il diametro della punta / up to 5 x drill diameter																					
				Cod. Code 11101		Cod. Code 11105		Cod. Code 11108		Cod. Code 11115		Cod. Code 11134		Cod. Code 11145		Cod. Code 11158		Cod. Code 11170		Cod. Code 11178		Cod. Code 11201		Cod. Code 11211		Cod. Code 11222		Cod. Code 11225		Cod. Code 11230	
				V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°
Acciai da costruzione	< 500	< 180 HB	E	**32**	**6**	**32**	**6**	**30**	**6**	**32**	**6**													80	4	**90**	**2**			**80**	**6**
Structural steels	500 - 850	150 - 250 HB	E	**25**	**5**	**25**	**5**	**24**	**5**	**25**	**5**													70	4	**80**	**1**			**80**	**6**
Acciai automatici	< 800	< 240 HB	E	**32**	**6**	32	6	**33**	**6**	32	6													**80**	**5**	**90**	**2**				
Free cutting steels	800 - 1000	240 - 300 HB	E	**25**	**5**	25	5	33	5	25	5							**28**	**5**			34	1	**70**	**4**	**80**	**1**				
Acciai da bonifica	< 700	< 200 HB	E	**32**	**5**	**32**	**5**	**28**	**5**	**32**	**5**													80	4	90	2			**100**	**3**
Heat treatable steels	700 - 850	200 - 250 HB	E - O	**25**	**5**	**25**	**5**	**28**	**5**	**25**	**5**							28	5					70	4	80	1			**90**	**3**
	850 - 1200	250 - 350 HB	E - O					25	4									**16**	**4**			34	1	60	4					**90**	**3**
Acciai da cementazione	< 750	< 220 HB	E	**32**	**6**	32	6	**33**	**6**	32	6													80	5	90	2			**80**	**3**
Case-hardening steels	750 - 950	220 - 280 HB	E - O					20	4									16	4					60	4	80	1			**80**	**3**
	950 - 1200	280 - 350 HB	E - O															**12**	**3**			34	1							**70**	**3**
Acciai nitrurati	600 - 800	180 - 240 HB	E	**16**	**4**			14	4									14	4					50	4	30	1			55	3
Nitrided steels	800 - 1200	240 - 350 HB	E - O															**10**	**3**												
Acciai da utensili	700 - 850	200 - 250 HB	E	**16**	**4**	16	4	18	4	16	4							18	4					50	3	30	1			70	3
Tool steels	850 - 1000	250 - 300 HB	E - O															**10**	**3**											55	3
Acciai per molle *Spring steels*	700 - 1100	200 - 320 HB	E - O															**8**	**2**					25	2	30	1				
Acciai inox *Stainless steels*	< 850	< 240 HB	O															10	3	**12**	**3**			**25**	**3**	**50**	**2**			**35**	**3**
Acciai resistenti al calore	450 - 700	130 - 200 HB	O																	14	4										
Heat-resisting steels	500 - 800	150 - 240 HB	O																	10	3										
Acciai temprati *Hardened steels*		< 55 HRC	O																			10	1	20	3	20	1				
Nichel e sue leghe *Nickel and alloys*	< 1200	< 350 HB	O																					15	2	30	1			15	3
Ghisa		< 240 HB	E - A	**30**	**6**	**30**	**6**	**28**	**6**	**30**	**6**							33	6			**65**	**3**	**80**	**4**	**50**	**2**	**120**	**5**	**100**	**3**
Cast iron		< 300 HB	E - A	**22**	**6**	22	6	33	6	22	6							26	6			**55**	**3**	**70**	**4**	**25**	**2**	**80**	**4**	**80**	**3**
Titanio e sue leghe	< 800	< 240 HB	O																	10	2			20	3	30	1			30	3
Titanium and alloys	800 - 1200	240 - 350 HB	O																					15	2					15	3
Alluminio e sue leghe *Aluminium and alloys*	< 400	< 120 HB	E													**80**	**7**			**90**	**7**			**200**	**7**	**140**	**3**			**280**	**7**
Leghe aluminio-ghisa Si<10% *Aluminium alloys Si < 10%*	< 600	< 180 HB	E			63	7			63	7					63	7	70	7	70	7			**150**	**6**	**120**	**4**			**250**	**7**
Leghe aluminio-ghisa >10%Si *Aluminium alloys Si > 10%*	< 600	< 180 HB	E			50	6			50	6							55	6	55 55	6 6			**120**	**6**	**80**	**2**			**180**	**7**
Magnesio e sue leghe *Magnesium and alloys*	< 450		A			80	6	80	6	80	6	**80**	**6**	**80**	**6**									**180**	**5**	**125**	**4**				
Rame *Copper*	< 400	< 120 HB	E - A			32	5	65	5	32	5					**32**	**5**	36	5	36	5			**80**	**5**	90	2			**180**	**3**
Ottone *Brass*	< 600	< 180 HB	E - O			40	5	60	5	40	5	**63**	**6**	**63**	**6**			45	4	45	5			180	5*	90	2	**170**	**7**	150	3
Bronzo	< 600	< 180 HB	E - O			32	4	**33**	**4**	32	4	32	4	32	4									120	5	120	3	**160**	**6**	150	3
Bronze	600 - 800	180 - 240 HB	E - O			25	4	**22**	**4**	25	4							28	4	**28**	**4**			70	4	100	2	**120**	**5**		
	800 - 1200	240 - 300 HB	E - O					**15**	**4**									**22**	**4**	**22**	**1**	79	4	50	3	100	2	**120**	**5**		
Termoplastici *Thermoplastics*			E - A	25	5	25	5	30	5	25	5	**25**	**5**	**25**	**5**	25	5					74	1	50	3	**120**	**5**	**120**	**5**	**250**	**6**
Termoindurenti *Duroplastics*			A	16	4	16	4	22	4	16	4	16	4	16	4			18	4					40	4	**80**	**4**	**80**	**5**	**180**	**6**

E	Emulsione / Emulsion
O	Olio / Oil
A	Aria / Air

V_t [m/min]	velocità media di taglio average cutting speed
N°	Numero della colonna avanzamento Number of feed column

* = tagliente principale corretto a circa 10°
* = main cutting edge corrected at approx 10°

![Gnutti Bortolo]

INFORMAZIONI TECNICHE

O	OTTIMO VERY GOOD
B	BUONO GOOD

PARAMETRI DI TAGLIO PER PUNTE - CUT PARAMETERS FOR DRILLS

fino a 3 volte il diametro della punta up to 3 x drill diameter																fino a 10 volte il diametro della punta up to 10 x drill diameter																				< 5 x D			
Cod. Code 11251		Cod. Code 11255		Cod. Code 11262		Cod. Code 11282		Cod. Code 11317		Cod. Code 11328		Cod. Code 11330		Cod. Code 11380		Cod. Code 11411		Cod. Code 11413		Cod. Code 11422		Cod. Code 11434		Cod. Code 11436		Cod. Code 11460		Cod. Code 11465		Cod. Code 11474		Cod. Code 11488		Cod. Code 11492		Cod. Code 11518		Cod. Code 11780	
V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°	V_t	N°
35	6	35	6			27	6			80	4	90	2	80	6	28	6	28	6					28	6	22	5	22	5	22	5	22	5	22	5	32	6	48	4
28	5	28	5			22	5			70	4	80	1	80	6	22	5	22	5					22	5	18	4	18	4	18	4	18	4	18	4	25	5	42	4
35	6	35	6			30	6	80	4	80	5	90	2			28	6	28	6					28	6	22	5	22	5	22	5	22	5	22	5	32	6	60	5
28	5	28	5			30	5	70	3	70	4	80	1			22	5	22	5			24	5	22	5	18	4	18	4	18	4	18	4	18	4	25	5	50	5
35	5	35	5			25	5			80	4	90	2	100	3	28	6	28	5					28	5	22	4	22	4	22	4	22	4	22	4	32	5	45	4
28	5	28	5			25	5			70	4	80	1	90	3	22	5	22	5			22	5	22	5	18	4	18	4	18	4	18	4	18	4	25	5	40	4
										60	4			90	3							14	4															30	3
35	6	36	6			30	6			80	5	90	2	80	3	28	6	28	6					28	6	22	5	22	5	22	5	22	5	22	5	32	6	40	3
										60	4	80	1	80	3							14	4			10	3			10	3							28	3
														70	3							10	3															25	2
18	4									50	4	30	1	55	3	14	4					13	4			8	3			8	3					16	4	25	3
																						8	3															18	2
18	4	18	4			16	4			50	3	30	1	70	3	14	4	14	4			16	4	14	4	12	3	12	3	12	3	12	3	12	3	16	4	28	3
														55	3							8	3			6	2	6	2	6	2	6	2	6	2			25	2
								25	2	25	2	30	1									6	2															13	2
										25	3	50	2	35	3							8	3			8	3			8	3							20	2
																						12	3																
																						8	3																
								10	2	20	3	20	1																										
										15	2	30	1	15	3																								
35	6	34	6			30	6	80	4	80	4	50	2	100	3	25	6	25	6			26	6	28	6	21	5	22	5	21	5	22	5	22	5	30	6	40	4
28	6	25	6			30	6	70	4	70	4	25	2	80	3	20	6	20	6			22	6	22	6	16	5	16	5	16	5	16	5	16	5	22	6	33	4
										20	3	30	1	30	3																								
										15	2			15	3																								
						70	7			200	7	140	3	280	7																							65	5
						50	7			150	6	120	4	250	7			55	7			60	7	55	7	45	6	45	6	45	6	45	6	45	6			85	5
						50	6			120	6	80	2	180	7			45	6			50	6	45	6	36	5	36	5	36	5	36	5	36	5			70	5
				90	6	70	6			180	5	125	4					70	6	70	6					55	5	55	5	55	5	55	5	55	5			50	4
						60	5			80	5	90	2	180	3			28	5			30	5	28	5	22	4	22	4	22	4	22	4	22	4			50	4
				70	6	40	5	180	5	180	5*	90	2	150	3			34	5	55	6	38	5	34	5	36	4	28	4	36	4	28	4	28	4			60	5
				36	4	30	4			120	5	120	3	150	3			28	4	28	4					22	3	22	3	22	3	22	3	22	3			35	5
						20	4			70	4	100	2					22	4			24	4	22	4	20	3	20	3	20	3	20	3	20	3			40	3
										50	3	100	2									20	4			18	3			18	3							32	3
28	5	28	5	28	5	28	5			40	3	120	5	250	6	22	5	22	5	22	5					18	4	18	4	18	4	18	4	18	4	25	5		
18	4	18	4	18	4	18	4			50	4	80	4	180	6	13	4	14	4	14	4	16	4	14	4	12	3	12	3	12	3	12	3	12	3	16	4	27	3

E	Emulsione / Emulsion
O	Olio / Oil
A	Aria / Air

V_t [m/min]	velocità media di taglio average cutting speed
N°	Numero della colonna avanzamento Number of feed column

* = tagliente principale corretto a circa 10°
* = main cutting edge corrected at approx 10°

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Gnutti Bortolo

INFORMAZIONI TECNICHE

AVANZAMENTO PUNTE - DRILLING FEED
FORMULE - FORMULAS

AVANZAMENTO TOT. [mm/min] = AVANZAMENTO [mm/giro] X N° DI GIRI [giri/min]

N° DI GIRI [giri/min] = $\frac{V_t \times 1000}{\text{DIAMETRO PUNTA [mm]} \times 3{,}14}$

TOT. FEED [mm/min] = FEED [mm/round] X TOOL REVOLUTIONS [rpm]

TOOL REVOLUTIONS [rpm] = $\frac{V_t \times 1000}{\text{DRILL'S DIAMETER [mm]} \times 3{,}14}$

Diametro punta	N° = Numero della colonna avanzamento N° = Number of feed column								
Drill diameter	1	2	3	4	5	6	7	8	9
[mm]	Avanzamento [mm/giro] / Feed [mm/rev]								
0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000

Materiale Material	Resistenza a trazione Tensile stress [MPa; N/mm²]	Durezza Hardness	Refrigerante Coolant	Cod. Code 11780 V_t	Cod. Code 11780 N°
Acciai da costruzione *Structural steels*	< 500 500 - 850	< 180 HB 150 - 250 HB	E E	**48** **42**	**4** **4**
Acciai automatici *Free cutting steels*	< 800 800 - 1000	< 240 HB 240 - 300 HB	E E	**60** **50**	**5** **5**
Acciai da bonifica *Heat treatable steels*	< 700 700 - 850 850 - 1200	< 200 HB 200 - 250 HB 250 - 350 HB	E E E	**45** **40** **30**	**4** **4** **3**
Acciai da cementazione *Case-hardening steels*	< 750 750 - 950 950 - 1200	< 220 HB 220 - 280 HB 280 - 350 HB	E E - O E - O	**40** **28** **25**	**3** **3** **2**
Acciai nitrurati *Nitrided steels*	600 - 800 800 - 1200	180 - 240 HB 240 - 350 HB	E E - O	**25** **18**	**3** **2**
Acciai da utensili *Tool steels*	700 - 850 850 - 1000	200 - 250 HB 250 - 300 HB	E E - O	**28** **25**	**3** **2**
Acciai per molle *Spring steels*	700 - 1100	200 - 320 HB	O	**13**	**2**
Acciai inox *Stainless steels*	< 850	< 240 HB	O	20	2
Acciai resistenti al calore *Heat-resisting steels*	450 - 700 500 - 800	130 - 200 HB 150 - 240 HB	O O		
Acciai temprati *Hardened steels*		< 55 HRC	O		
Nichel e sue leghe *Nickel and alloys*	< 1200	< 350 HB	O		
Ghisa *Cast iron*		< 240 HB < 300 HB	E - O E - A	**40** **33**	**4** **4**
Titanio e sue leghe *Titanium and alloys*	< 800 800 - 1200	< 240 HB 240 - 350 HB	O O		
Alluminio e sue leghe *Aluminium and alloys*	< 400	< 120 HB	E	**65**	**5**
Leghe aluminio-ghisa Si<10% *Aluminium alloys Si < 10%*	< 600	< 180 HB	E	**85**	**5**
Leghe aluminio-ghisa>10%Si *Aluminium alloys Si > 10%*	< 600	< 180 HB	E	**70**	**5**
Magnesio e sue leghe *Magnesium and alloys*	< 450		A	**50**	**4**
Rame *Copper*	< 400	< 120 HB	E	**50**	**4**
Ottone *Brass*	< 600	< 180 HB	E	**60**	**5**
Bronzo *Bronze*	< 600 600 - 800 800 - 1200	< 180 HB 180 - 240 HB 240 - 300 HB	E - O E - O O	**35** **40** **32**	**5** **3** **3**
Termoplastici *Thermoplastics*			E - A		
Termoindurenti *Duroplastics*			A	**27**	**3**

PARAMETRI DI TAGLIO PER PUNTE AD INSERTI
CUT PARAMETERS FOR INSERT DRILLS

O	OTTIMO VERY GOOD
B	BUONO GOOD

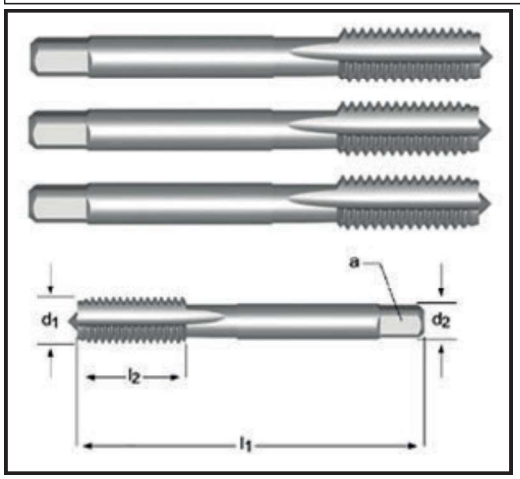
E	Emulsione / Emulsion
O	Olio / Oil
A	Aria / Air

V_t [m/min]	velocità media di taglio average cutting speed
N°	Numero della colonna avanzamento Number of feed column

* = tagliente principale corretto a circa 10°
* = main cutting edge corrected at approx 10°

Diametro punte	N° = Numero della colonna avanzamento N° = Number of feed column								
Drill diameter	1	2	3	4	5	6	7	8	9
[mm]	Avanzamento [mm/giro] / Feed [mm/rev]								
10,00	0,077	0,090	0,113	0,144	0,185	0,235	0,294	0,362	0,440
12,50	0,091	0,107	0,134	0,172	0,220	0,279	0,350	0,431	0,523
16,00	0,111	0,130	0,162	0,208	0,266	0,338	0,423	0,521	0,633
20,00	0,131	0,154	0,193	0,247	0,316	0,402	0,503	0,619	0,752
25,00	0,156	0,183	0,229	0,293	0,376	0,478	0,598	0,736	0,893
31,50	0,187	0,219	0,274	0,351	0,450	0,571	0,715	0,880	1,068
40,00	0,225	0,264	0,329	0,422	0,541	0,687	0,860	1,059	1,285
50,00	0,267	0,313	0,391	0,501	0,643	0,816	1,022	1,259	1,527
63,00	0,319	0,375	0,468	0,599	0,769	0,976	1,222	1,505	1,826

Serie di maschi a mano M, DIN 352
Hand taps serie M, DIN 352



Art. 12008 DORMER

Cod. Fornitore: **E100**
Manufacturer code: **E100**

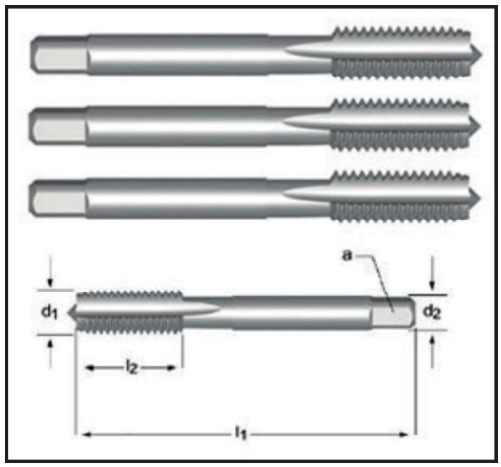
Descrizione:
Serie di maschi a mano M, DIN 352. Materiale HSS.

Hand taps serie M, DIN 352. Material HSS.

ART. 12008
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12008020	**M 2**	0,40	36	8	2,8	2,1	3	1,6
12008025	**M 2,5**	0,45	40	9	2,8	2,1	3	2,05
12008030	**M 3**	0,50	40	10	3,5	2,7	3	2,5
12008035	**M 3,5**	0,60	45	10	4	3	3	2,9
12008040	**M 4**	0,70	45	12	4,5	3,4	3	3,3
12008050	**M 5**	0,80	50	14	6	4,9	3	4,2
12008060	**M 6**	1,00	56	16	6	4,9	3	5
12008080	**M 8**	1,25	63	19	6	4,9	3	6,8
12008100	**M 10**	1,50	70	22	7	5,5	3	8,5
12008120	**M 12**	1,75	75	25	9	7	4	10,3
12008140	**M 14**	2,00	80	25	11	9	4	12
12008160	**M 16**	2,00	80	25	12	9	4	14
12008180	**M 18**	2,50	95	32	14	11	4	15,5
12008200	**M 20**	2,50	95	32	16	12	4	17,5
12008220	**M 22**	2,50	100	34	18	14,5	4	19,5
12008240	**M 24**	3,00	110	38	18	14,5	4	21
12008270	**M 27**	3,00	110	38	20	16	4	24
12008300	**M 30**	3,50	125	45	22	18	4	26,5

Serie di maschi a mano M, elica sinistra, DIN 352
Hand taps serie M, left helix, DIN 352



Art. 12025 DORMER

Cod. Fornitore: **E101**
Manufacturer code: **E101**

Descrizione:
Serie di machi a mano M, elica sinistra, DIN 352. Materiale HSS.

Hand taps serie M, left helix, DIN 352. Material HSS.

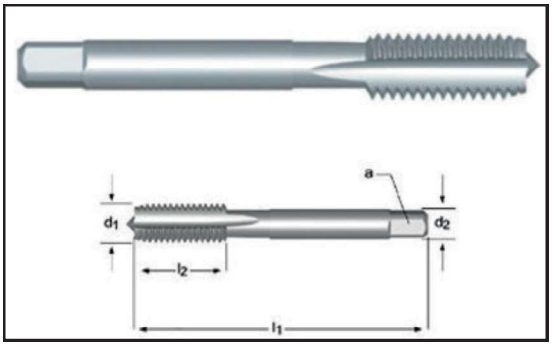
ART. 12025
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12025050	**M 5**	0,80	50	14	6	4,9	3	4,2
12025060	**M 6**	1,00	56	16	6	4,9	3	5
12025080	**M 8**	1,25	63	19	6	4,9	3	6,8
12025100	**M 10**	1,50	70	22	7	5,5	3	8,5
12025120	**M 12**	1,75	75	25	9	7,0	4	10,3
12025140	**M 14**	2,00	80	25	11	9	4	12

Maschio a mano finitore M, DIN 352
Hand bottoming tap M, DIN 352

Art. 12041 DORMER

Cod. Fornitore: **E100**
Manufacturer code: **E100**



Descrizione:
Maschio a mano finitore M, DIN 352. Materiale HSS.

Hand bottoming tap M, DIN 352. Material HSS.

ART. 12041

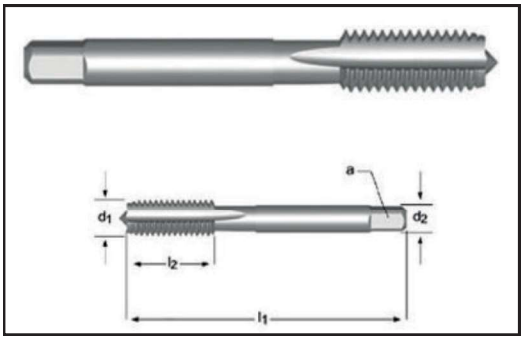
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12041020	**M 2**	0,40	36	8	2,8	2,1	3	1,6
12041030	**M 3**	0,50	40	10	3,5	2,7	3	2,5
12041035	**M 3,5**	0,60	45	10	4	3	3	2,9
12041040	**M 4**	0,70	45	12	4,5	3,4	3	3,3
12041050	**M 5**	0,80	50	14	6	4,9	3	4,2
12041060	**M 6**	1,00	56	16	6	4,9	3	5
12041070	**M 7**	1,00	56	16	6	4,9	3	6
12041080	**M 8**	1,25	63	19	6	4,9	3	6,8
12041090	**M 9**	1,25	63	20	7	5,5	3	7,8
12041100	**M 10**	1,50	70	22	7	5,5	3	8,5
12041120	**M 12**	1,75	75	25	9	7	4	10,3
12041140	**M 14**	2,00	80	25	11	9	4	12
12041160	**M 16**	2,00	80	25	12	9	4	14
12041180	**M 18**	2,50	95	32	14	11	4	15,5
12041200	**M 20**	2,50	95	32	16	12	4	17,5
12041220	**M 22**	2,50	100	34	18	14,5	4	19,5
12041240	**M 24**	3,00	110	38	18	14,5	4	21
12041300	**M 30**	3,50	125	45	22	18	4	26,5

Maschio a mano finitore M, elica sinistra, DIN 352
Hand bottoming tap M, left helix, DIN 352

Art. 12048 DORMER

Cod. Fornitore: **E101**
Manufacturer code: **E101**



Descrizione:
Maschio a mano finitore M, elica sinistra, DIN 352. Materiale HSS.

Hand bottoming tap M, left helix, DIN 352. Material HSS.

ART. 12048

Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12048040	**M 4**	0,70	45	12	4,5	3,4	3	3,3
12048060	**M 6**	1,00	56	16	6	4,9	3	5
12048080	**M 8**	1,25	63	19	6	4,9	3	6,8
12048100	**M 10**	1,50	70	22	7	5,5	3	8,5
12048120	**M 12**	1,75	75	25	9	7,0	4	10,3

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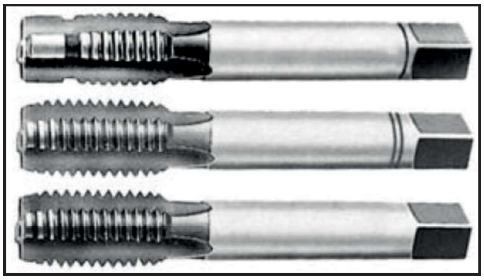
nella sezione COMPONENTI MECCANICI
TRASMISSIONI

Maschi - Maschi a mano M- Maschi per manutenzione, riparazione

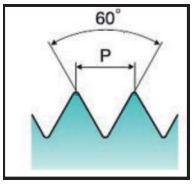
Serie di maschi a mano M, DIN 352, per acciai trattati
Hand taps serie M, DIN 352, for treated steels

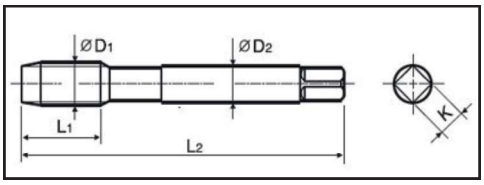
Art. 12055 GnuBo



Descrizione:
Serie di maschi a mano M, DIN 352. Materiale HSS-Co per la lavorazione di acciai trattati termicamente.

Hand taps serie M, DIN 352. Material HSS-Co for machining of heat treated steels.





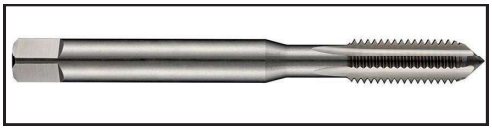
ART. 12055
Dati tecnici / Technical data

cod. code	filetto thread	passo pitch [mm]	L_1 [mm]	L_2 [mm]	L_3 [mm]	D_2 [mm]	K [mm]	KI [mm]	Z	diam. preforo tapping hole diam. [mm]
12055040	**M 4**	0,70	13	45	21	4,5	3,4	6	3	3,3
12055050	**M 5**	0,80	16	52	26	6	4,9	8	3	4,2
12055060	**M 6**	1,00	18	56	27	6	4,9	8	3	5
12055080	**M 8**	1,25	20	63	34	6	4,9	8	3	6,8
12055100	**M 10**	1,50	22	70	38	7	5,5	8	4	9

Maschi - Maschi per manutenzione, riparazione

Maschio MRO M, imbocco corto, dritto, DIN 371
Tap MRO M, short chamfer, straight, DIN 371

Art. 12112 GnuBo

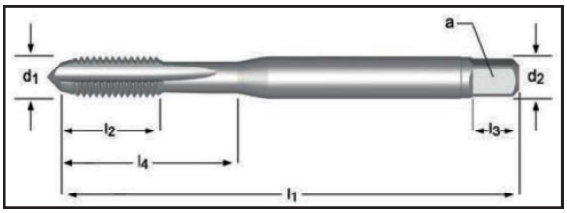


Descrizione:
Maschio a macchina M, imbocco corto C, dritto, DIN 371, adatto al settore MRO (manutenzione, riparazione, revisione) per esigenze di maschiatura di qualità e buon prezzo. Materiale HSS ad elevata tenacità per applicazioni su materiali con inclusioni, basse velocità di taglio o su macchine con condizioni non ottimali. Superficie lucida per applicazioni universali, ottimo anche su materiali pastosi.

ART. 12112
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12112030	**M 3**	0,50	56	11	3,5	2,7	6	18	3	2,5
12112040	**M 4**	0,70	63	13	4,5	3,4	6	21	3	3,3
12112050	**M 5**	0,80	70	16	6	4,9	8	25	3	4,2
12112060	**M 6**	1,00	80	19	6	4,9	8	30	3	5
12112080	**M 8**	1,25	90	22	8	6,2	9	35	3	6,8
12112100	**M 10**	1,50	100	24	10	8	11	39	4	8,5

Machine tap M, short chamfer C, straight, DIN 371, suitable for the MRO sector (maintenance, repair, overhaul) for quality tapping requirements and good price. High tenacity HSS material for applications on materials with inclusions, low cutting speeds or on machines with less than optimal conditions. Glossy surface for universal applications, also excellent on pasty materials.



Serie di maschi MRO M, imbocco corto, dritto, DIN 371
MRO taps serie M, short chamfer, straight, DIN 371

Art. 12114 GnuBo

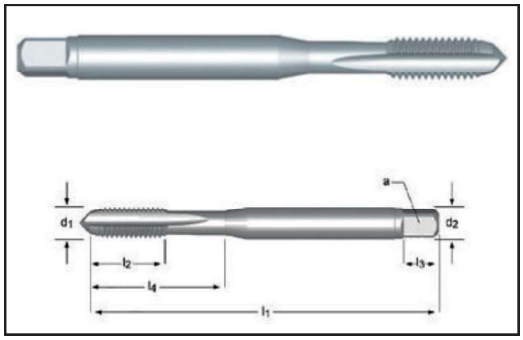
Descrizione:
Serie di maschi a macchina M, imbocco corto C, dritto, DIN 371, adatto al settore MRO (manutenzione, riparazione, revisione) per esigenze di maschiatura di qualità e buon prezzo. Materiale HSS ad elevata tenacità per applicazioni su materiali con inclusioni, basse velocità di taglio o su macchine con condizioni non ottimali. Superficie lucida per applicazioni universali, ottimo anche su materiali pastosi.

Machine tap serie M, short chamfer C, straight, DIN 371, suitable for the MRO sector (maintenance, repair, overhaul) for quality tapping requirements and good price. High tenacity HSS material for applications on materials with inclusions, low cutting speeds or on machines with less than optimal conditions. Glossy surface for universal applications, also excellent on pasty materials.

ART. 12114781
Dati tecnici / Technical data

filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
M 3	0,50	56	11	3,5	2,7	6	18	3	2,5
M 4	0,70	63	13	4,5	3,4	6	21	3	3,3
M 5	0,80	70	16	6	4,9	8	25	3	4,2
M 6	1,00	80	19	6	4,9	8	30	3	5
M 8	1,25	90	22	8	6,2	9	35	3	6,8
M 10	1,50	100	24	10	8	11	39	4	8,5

Maschio M, imbocco corto, dritto, DIN 371
Tap M, short chamfer, straight, DIN 371



Art. 12132 DORMER

Cod. Fornitore: **E200**
Manufacturer code: **E200**

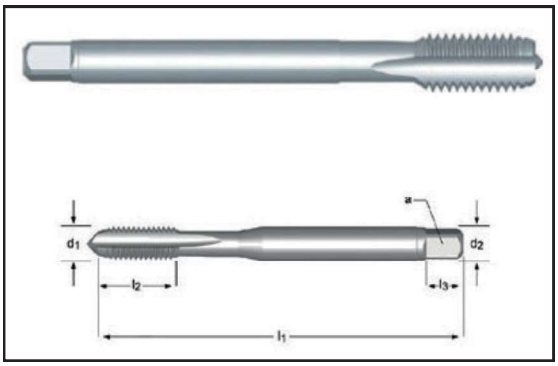
Descrizione:
Maschio a macchina M, imbocco corto C, dritto, DIN 371. Materiale HSS-Co.

Machine tap M, short chamfer C, straight, DIN 371. Material HSS-Co.

ART. 12132
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12132025	**M 2,5**	0,45	50	8	2,8	2,1	5	13	3	2,05
12132030	**M 3**	0,50	56	9	3,5	2,7	6	18	3	2,5
12132040	**M 4**	0,70	63	12	4,5	3,4	6	21	3	3,3
12132050	**M 5**	0,80	70	13	6	4,9	8	25	3	4,2
12132060	**M 6**	1,00	80	15	6	4,9	8	30	3	5
12132080	**M 8**	1,25	90	18	8	6,2	9	35	3	6,8
12132100	**M 10**	1,50	100	20	10	8	11	39	3	8,5

Maschio M, imbocco corto, dritto, DIN 376
Tap M, short chamfer, straight, DIN 376



Art. 12134 DORMER

Cod. Fornitore: **E250**
Manufacturer code: **E250**

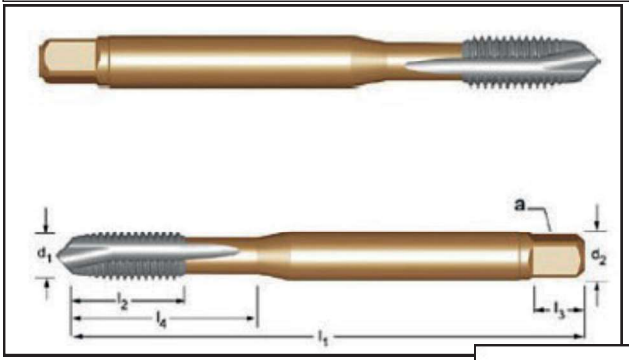
Descrizione:
Maschio a macchina M, imbocco corto C, dritto, DIN 376. Materiale HSS-Co.

Machine tap M, short chamfer C, straight, DIN 376.

ART. 12134
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12134050	**M 5**	0,80	70	13	3,5	2,7	6	3	4,2
12134060	**M 6**	1,00	80	15	4,5	3,4	6	3	5
12134080	**M 8**	1,25	90	18	6	4,9	8	3	6,8
12134100	**M 10**	1,50	100	20	7	5,5	8	3	8,5
12134120	**M 12**	1,75	110	23	9	7	10	3	10,3
12134140	**M 14**	2,00	110	25	11	9	12	3	12
12134160	**M 16**	2,00	110	25	12	9	12	3	14
12134180	**M 18**	2,50	125	30	14	11	14	3	15,5
12134200	**M 20**	2,50	140	30	16	12	15	3	17,5
12134240	**M 24**	3,00	160	38	18	14,5	17	4	21
12134300	**M 30**	3,50	180	45	22	18	21	4	26,5
12134360	**M 36**	4,00	200	55	28	22	25	4	32

Maschio M, imbocco corretto, dritto, DIN 371
Tap M, spiral point, straight, DIN 371



Art. 12153 DORMER

Cod. Fornitore: **EP006H**
Manufacturer code: **EP006H**

Descrizione:
Maschio a macchina M, imbocco lungo corretto B, dritto, DIN 371. Materiale HSS-Co.

Machine tap M, long chamfer B with spiral point, straight, DIN 371. Material HSS-Co.

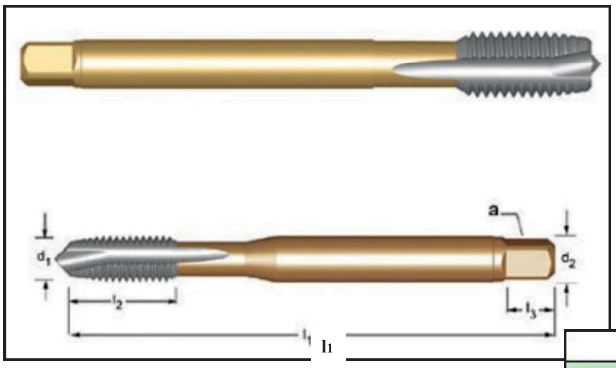
ART. 12153
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12153030	**M 3**	0,50	56	9	3,5	2,7	6	18	3	2,5
12153040	**M 4**	0,70	63	12	4,5	3,4	6	21	3	3,3
12153050	**M 5**	0,80	70	13	6	4,9	8	25	3	4,2
12153060	**M 6**	1,00	80	15	6	4,9	8	30	3	5
12153080	**M 8**	1,25	90	18	8	6,2	9	35	3	6,8
12153100	**M 10**	1,50	100	20	10	8	11	39	3	8,5

Maschio M, imbocco corto, dritto, DIN 376
Tap M, short chamfer, straight, DIN 376

Art. 12155 DORMER

Cod. Fornitore: **EP006H**
Manufacturer code: **EP006H**



Descrizione:
Maschio a macchina M, imbocco corto C, dritto, DIN 376. Materiale HSS-Co.

Machine tap M, short chamfer C, straight, DIN 376. Material HSS-Co.

ART. 12155

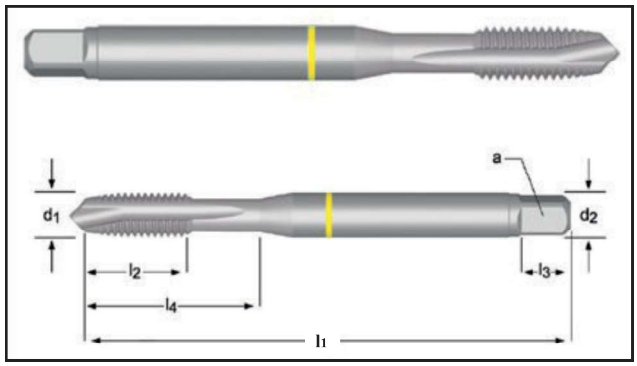
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12155060	**M 6**	1,00	80	15	4,5	3,4	6	3	5
12155080	**M 8**	1,25	90	18	6	4,9	8	3	6,8
12155100	**M 10**	1,50	100	20	7	5,5	8	3	8,5
12155120	**M 12**	1,75	110	23	9	7,0	10	3	10,3
12155140	**M 14**	2,00	110	25	11	9	12	3	12
12155160	**M 16**	2,00	110	25	12	9	12	3	14
12155200	**M 20**	2,50	140	30	16	12	15	4	17,5

Maschio M, imbocco corretto, dritto, anello giallo, DIN 371
Tap M, spiral point, straight, yellow ring, DIN 371

Art. 12161 DORMER

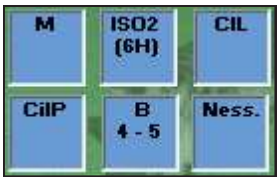
Cod. Fornitore: **E297**
Manufacturer code: **E297**



Descrizione:

Maschio a macchina M, imbocco lungo corretto B, dritto, anello giallo, DIN 371. Materiale HSS-Co sinterizzato cromato.

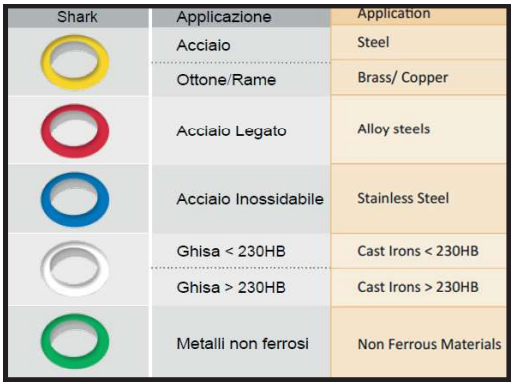
Machine tap M, long chamfer B with spiral point, straight, yellow ring, DIN 371. Material chromium plated sintered HSS-Co.



ART. 12161

Dati tecnici / Technical data

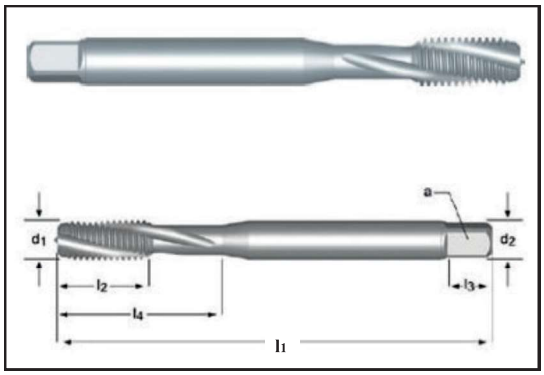
cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12161030	**M 3**	0,50	56	9	3,5	2,7	6	18	3	2,5
12161040	**M 4**	0,70	63	12	4,5	3,4	6	21	3	3,3
12161050	**M 5**	0,80	70	13	6	4,9	8	25	3	4,2
12161060	**M 6**	1,00	80	15	6	4,9	8	30	3	5
12161080	**M 8**	1,25	90	18	8	6,2	9	35	3	6,8
12161100	**M 10**	1,50	100	20	10	8	11	39	3	8,5



GNUTTI BORTOLO :
LA SOLUZIONE AI TUOI
BISOGNI INDUSTRIALI

Maschio M, imbocco corto, elica 15°, DIN 371
Tap M, short chamfer, helix 15°, DIN 371

Art. 12213 DORMER



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 15°, DIN 371. Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 15°, DIN 371. Material HSS-Co.

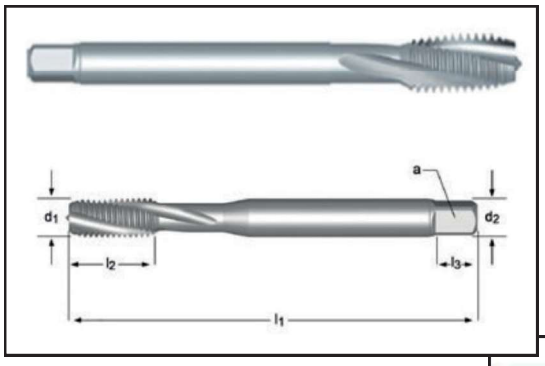
Cod. Fornitore: **E207**
Manufacturer code: **E207**

ART. 12213
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12213030	**M 3**	0,50	56	9	3,5	2,7	6	18	3	2,5
12213040	**M 4**	0,70	63	12	4,5	3,4	6	21	3	3,3
12213050	**M 5**	0,80	70	13	6	4,9	8	25	3	4,2
12213060	**M 6**	1,00	80	15	6	4,9	8	30	3	5
12213080	**M 8**	1,25	90	18	8	6,2	9	35	3	6,8

Maschio M, imbocco corto, elica 15°, DIN 376
Tap M, short chamfer, helix 15°, DIN 376

Art. 12215 DORMER



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 15°, DIN 376. Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 15°, DIN 376. Material HSS-Co.

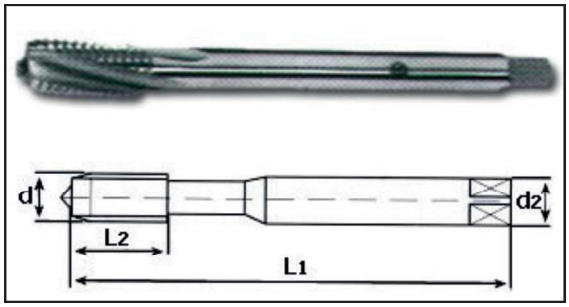
Cod. Fornitore: **E258**
Manufacturer code: **E258**

ART. 12215
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12215120	**M 12**	1,75	110	23	9	7	10	3	10,3
12215140	**M 14**	2,00	110	25	11	9	12	3	12
12215160	**M 16**	2,00	110	25	12	9	12	3	14

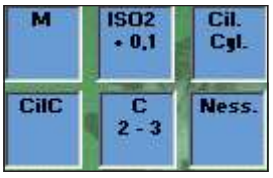
Maschio M, imbocco corto, elica 15°, +0,10, DIN 371
Machine tap M, chamfer C, helix 15°, +0,10, DIN 371

Art. 12228 GnuBo



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 15°, maggiorato +0,10, DIN 371. Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 15°, oversized +0,10, DIN 371. Material HSS-Co.

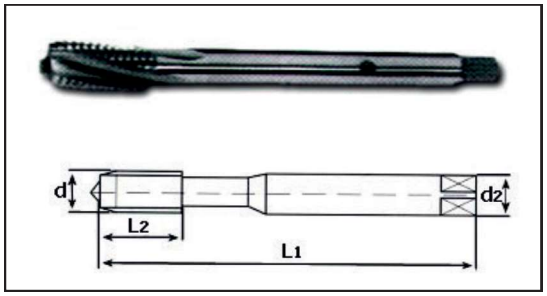


ART. 12228
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	L_1 [mm]	L_2 [mm]	d_2 [mm]	maggior. oversize [mm]	diam. preforo tapping hole diam. [mm]
12228030	**M 3**	0,50	56	10	4	+ 0,1	2,5
12228040	**M 4**	0,70	63	12	4,5	+ 0,1	3,3
12228050	**M 5**	0,80	70	12	6	+ 0,1	4,2
12228060	**M 6**	1,00	80	14	6	+ 0,1	5
12228080	**M 8**	1,25	90	18	8	+ 0,1	6
12228100	**M 10**	1,50	100	20	10	+ 0,1	9

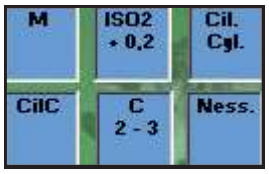
Maschio M, imbocco corto, elica 15°, +0,20, DIN 371
Machine tap M, chamfer C, helix 15°, +0,20, DIN 371

Art.12230 GnuBo



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 15°, maggiorato +0,20, DIN 371. Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 15°, oversized +0,20, DIN 371. Material HSS-Co.



ART. 12230

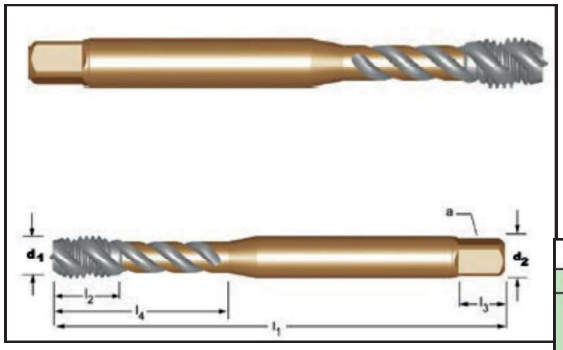
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	L_1 [mm]	L_2 [mm]	d_2 [mm]	maggior. oversize [mm]	diam. preforo tapping hole diam. [mm]
12230040	**M 4**	0,70	63	12	4,5	+ 0,2	3,3
12230050	**M 5**	0,80	70	12	6	+ 0,2	4,2
12230060	**M 6**	1,00	80	14	6	+ 0,2	5
12230080	**M 8**	1,25	90	18	8	+ 0,2	6
12230100	**M 10**	1,50	100	20	10	+ 0,2	9

Maschio M, imbocco corto, elica 45°, DIN 371
Tap M, short chamfer, helix 45°, DIN 371

Art. 12243 DORMER

Cod. Fornitore: **EX00**
Manufacturer code: **EX00**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, DIN 371. Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 45°, DIN 371. Material HSS-Co.

ART. 12243

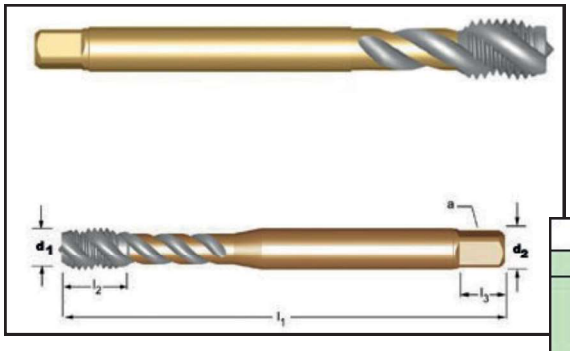
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12243030	**M 3**	0,50	56	6	3,5	2,7	6	18	3	2,5
12243040	**M 4**	0,70	63	7	4,5	3,4	6	21	3	3,3
12243050	**M 5**	0,80	70	8	6	4,9	8	25	3	4,2
12243060	**M 6**	1,00	80	10	6	4,9	8	31	3	5
12243080	**M 8**	1,25	90	12	8	6,2	9	35	3	6,8
12243100	**M 10**	1,50	100	15	10	8	11	39	3	8,5

Maschio M, imbocco corto, elica 45°, DIN 376
Tap M, short chamfer, helix 45°, DIN 376

Art. 12245 DORMER

Cod. Fornitore: **EX00**
Manufacturer code: **EX00**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, DIN 376.
Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 45°, DIN 376. Material HSS-Co.

ART. 12245

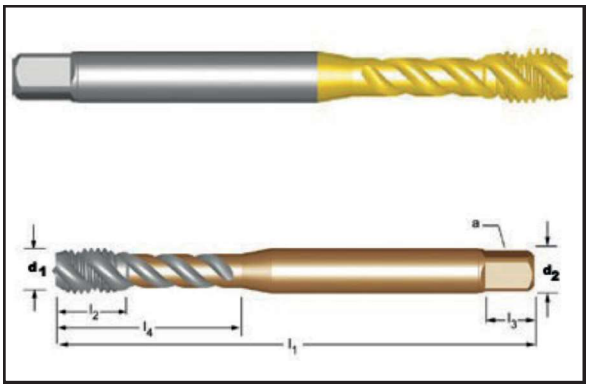
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12245060	**M 6**	1,00	80	10	4,5	3,4	6	3	5
12245080	**M 8**	1,25	90	13	6	4,9	8	3	6,8
12245100	**M 10**	1,50	100	15	7	5,5	8	3	8,5
12245120	**M 12**	1,75	110	16	9	7	10	3	10,3
12245140	**M 14**	2,00	110	20	11	9	12	3	12
12245160	**M 16**	2,00	110	20	12	9	12	4	14
12245180	**M 18**	2,50	125	25	14	11	14	4	16
12245200	**M 20**	2,50	140	25	16	12	15	4	17,5
12245220	**M 22**	2,50	140	25	18	14,5	17	4	19,5
12245240	**M 24**	3,00	160	30	18	14,5	17	4	21

Maschio M, imbocco corto, elica 45°, TiN, DIN 371
Tap M, short chamfer, helix 45°, TiN, DIN 371

Art. 12252 DORMER

Cod. Fornitore: **EX00TIN**
Manufacturer code: **EX00TIN**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, DIN 371. Materiale HSS-Co, rivestito TiN.

Machine tap M, short chamfer C, right helix 45°, DIN 371. Material HSS-Co, TiN coated.

ART. 12252

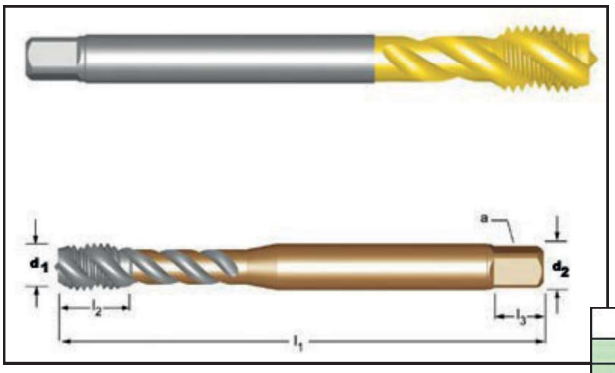
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a ▧ [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12252030	**M 3**	0,50	56	6	3,5	2,7	6	18	3	2,5
12252040	**M 4**	0,70	63	7	4,5	3,4	6	21	3	3,3
12252050	**M 5**	0,80	70	8	6	4,9	8	25	3	4,2
12252060	**M 6**	1,00	80	10	6	4,9	8	31	3	5
12252080	**M 8**	1,25	90	12	8	6,2	9	35	3	6,8
12252100	**M 10**	1,50	100	15	10	8	11	39	3	8,5

Maschio M, imbocco corto, elica 45°, TiN, DIN 376
Tap M, short chamfer, helix 45°, TiN, DIN 376

Art. 12255 DORMER

Cod. Fornitore: **EX00TIN**
Manufacturer code: **EX00TIN**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, DIN 376. Materiale HSS-Co, rivestito TiN.

Machine tap M, short chamfer C, right helix 45°, DIN 376. Material HSS-Co, TiN coated.

ART. 12255

Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a ▧ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12255120	**M 12**	1,75	110	16	9	7	10	3	10,3
12255140	**M 14**	2,00	110	20	11	9	12	3	12
12255160	**M 16**	2,00	110	20	12	9	12	4	14

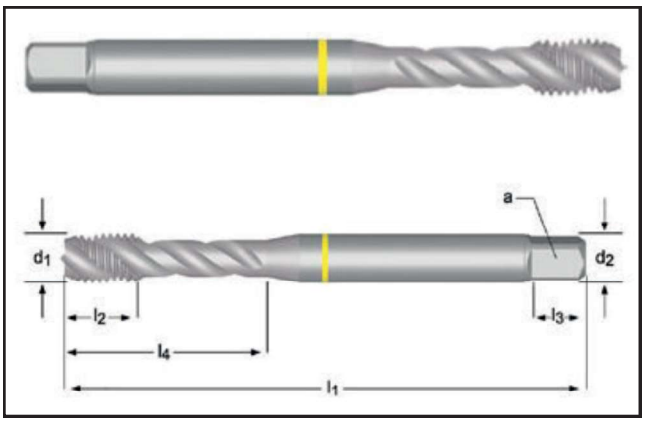
Applicazioni dei maschi, sulle schede articolo del ns sito web

Taps Applications on Item data sheet on our website!

Maschio M, imbocco corto, elica 40°, anello giallo, DIN 371
Tap M, short chamfer, helix 40°, yellow ring, DIN 371

Art. 12313 DORMER

Cod. Fornitore: **E298**
Manufacturer code: **E298**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 40°, anello giallo, DIN 371. Materiale HSS-Co sinterizzato cromato.

Machine tap M, short chamfer C, right helix 40°, yellow ring, DIN 371. Material chromium plated sintered HSS-Co.

ART. 12313

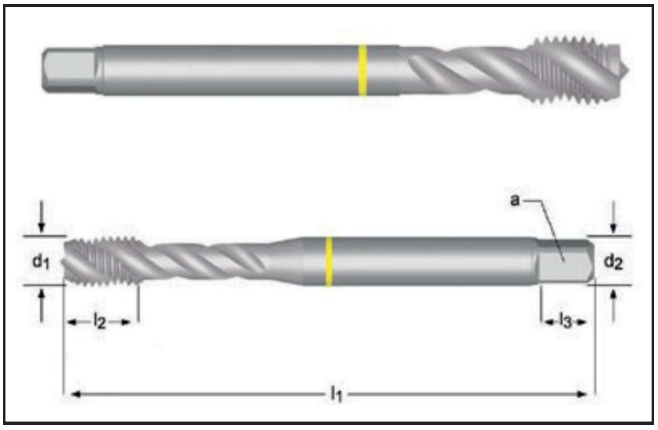
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a ▧ [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12313030	**M 3**	0,50	56	6	3,5	2,7	6	18	3	2,5
12313040	**M 4**	0,70	63	7	4,5	3,4	6	21	3	3,3
12313050	**M 5**	0,80	70	8	6	4,9	8	25	3	4,2
12313060	**M 6**	1,00	80	10	6	4,9	8	30	3	5
12313080	**M 8**	1,25	90	13	8	6,2	9	35	3	6,8
12313100	**M 10**	1,50	100	15	10	8	11	39	3	8,5

Maschio M, imbocco corto, elica 40°, anello giallo, DIN 376
Tap M, short chamfer, helix 40°, yellow ring, DIN 376

Art. 12315 DORMER

Cod. Fornitore: **E298**
Manufacturer code: **E298**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 40°, anello giallo, DIN 376.
Materiale HSS-Co sinterizzato cromato.

Machine tap M, short chamfer C, right helix 40°, yellow ring, DIN 376. Material chromium plated sintered HSS-Co.

ART. 12315

Dati tecnici / Technical data

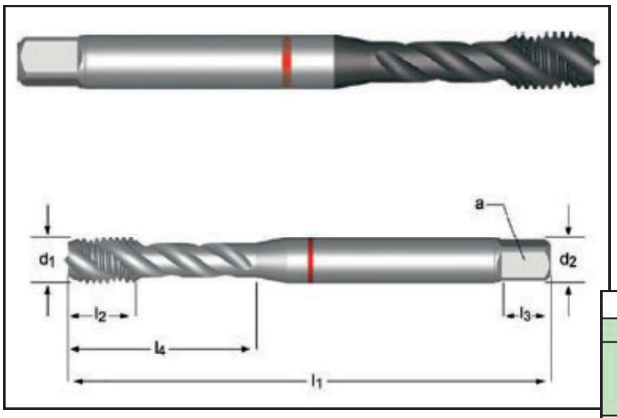
cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a ▧ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12315120	**M 12**	1,75	110	18	9	7	10	3	10,3
12315140	**M 14**	2,00	110	20	11	9	12	3	12
12315160	**M 16**	2,00	110	20	12	9	12	4	14

Shark	Applicazione	Application
	Acciaio	Steel
	Ottone/Rame	Brass/ Copper
	Acciaio Legato	Alloy steels
	Acciaio Inossidabile	Stainless Steel
	Ghisa < 230HB	Cast Irons < 230HB
	Ghisa > 230HB	Cast Irons > 230HB
	Metalli non ferrosi	Non Ferrous Materials

Maschio M, imbocco corto, el. 45°, TiAlN, anello rosso, DIN 371
Tap M, short chamfer, helix 45°, TiAlN, red ring, DIN 371

Art. 12327 DORMER

Cod. Fornitore: **E261**
Manufacturer code: **E261**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, anello rosso, rastremazione posteriore del filetto, DIN 371. Materiale HSS-Co sinterizzato, rivestito TiAlN.

Machine tap M, short chamfer C, right helix 45°, red ring, back tapered, DIN 371. Material sintered HSS-Co, TiAlN coated.

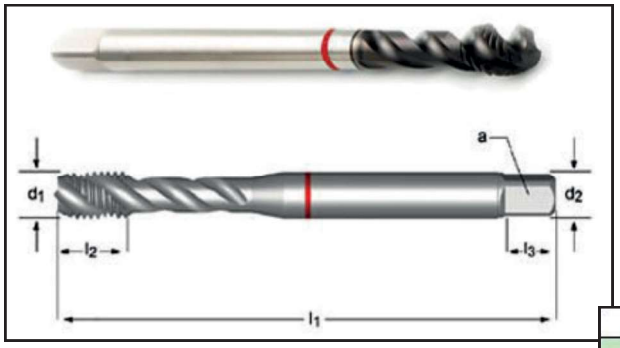
ART. 12327
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12327040	**M 4**	0,70	63	12	4,5	3,4	6	21	3	3,3
12327050	**M 5**	0,80	70	13	6	4,9	8	25	3	4,2
12327060	**M 6**	1,00	80	15	6	4,9	8	30	3	5
12327080	**M 8**	1,25	90	18	8	6,2	9	35	3	6,8
12327100	**M 10**	1,50	100	20	10	8	11	39	3	8,5

Maschio M, imbocco corto, el. 45°, TiAlN, anello rosso, DIN 376
Tap M, short chamfer, helix 45°, TiAlN, red ring, DIN 376

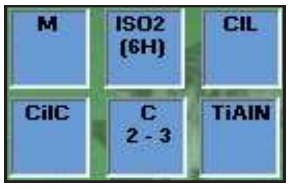
Art. 12329 DORMER

Cod. Fornitore: **E261**
Manufacturer code: **E261**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, anello rosso, rastremazione posteriore del filetto, DIN 376. Materiale HSS-Co sinterizzato, rivestito TiAlN.

Machine tap M, short chamfer C, right helix 45°, red ring, back tapered, DIN 376. Material sintered HSS-Co, TiAlN coated.



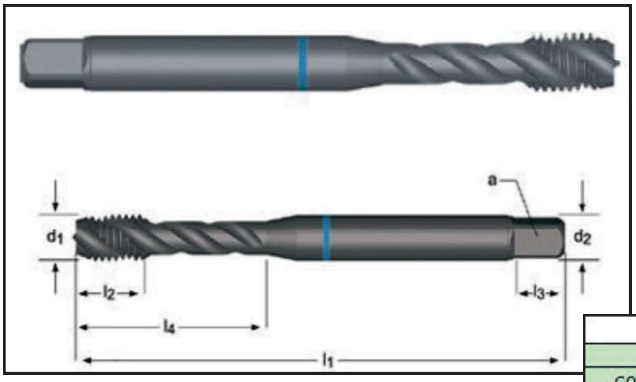
ART. 12329
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12329120	**M 12**	1,75	110	23	9	7	10	3	10,3
12329160	**M 16**	2,00	110	25	12	9	12	4	14

Maschio M, imbocco corto, elica 40°, anello blu, DIN 371
Tap M, short chamfer, helix 40°, blue ring, DIN 371

Art. 12331 DORMER

Cod. Fornitore: **E238**
Manufacturer code: **E238**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 40°, anello blu, rastremazione posteriore del filetto, DIN 371. Materiale HSS-Co sinterizzato vaporizzato.

Machine tap M, short chamfer C, right helix 40°, blue ring, back tapered, DIN 371. Material steamed sintered HSS-Co.

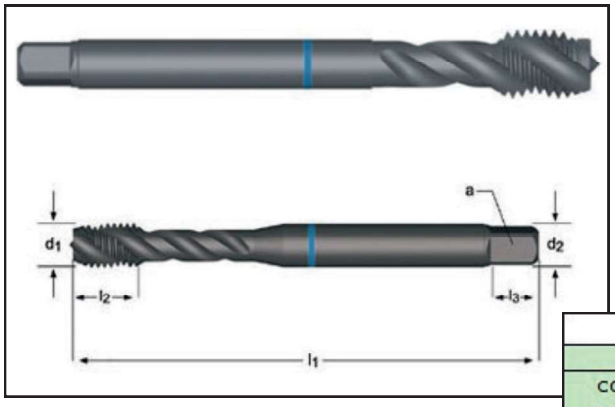
ART. 12331
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12331030	**M 3**	0,50	56	6	3,5	2,7	6	18	3	2,5
12331040	**M 4**	0,70	63	7	4,5	3,4	6	21	3	3,3
12331050	**M 5**	0,80	70	8	6	4,9	8	25	3	4,2
12331060	**M 6**	1,00	80	10	6	4,9	8	30	3	5
12331080	**M 8**	1,25	90	13	8	6,2	9	33	3	6,8
12331100	**M 10**	1,50	100	15	10	8	11	39	3	8,5

Maschio M, imbocco corto, elica 40°, anello blu, DIN 376
Tap M, short chamfer, helix 40°, blue ring, DIN 376

Art. 12333 DORMER

Cod. Fornitore: **E238**
Manufacturer code: **E238**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 40°, anello blu, rastremazione posteriore del filetto, DIN 376. Materiale HSS-Co sinterizzato vaporizzato.

Machine tap M, short chamfer C, right helix 40°, blue ring, back tapered, DIN 376. Material steamed sintered HSS-Co.

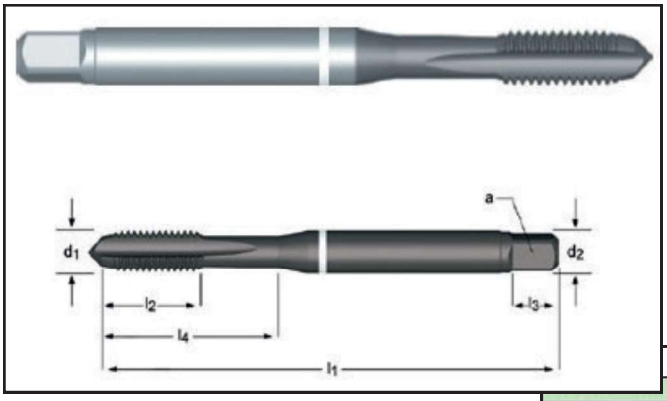
ART. 12333
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12333120	**M 12**	1,75	110	18	9	7	10	4	10,3
12333140	**M 14**	2,00	110	20	11	9	12	4	12
12333160	**M 16**	2,00	110	20	12	9	12	4	14
12333180	**M 18**	2,50	125	25	14	11	14	4	15,5
12333200	**M 20**	2,50	140	25	16	12	15	4	17,5

Maschio M, imbocco corto, dritto, TiAlN, anello bianco, DIN 371
Tap M, short chamfer, straight, TiAlN, white ring, DIN 371

Art. 12345 DORMER

Cod. Fornitore: **E390**
Manufacturer code: **E390**



Descrizione:
Maschio a macchina M, imbocco corto C, dritto, anello bianco, DIN 371. Materiale HSS-Co sinterizzato, rivestito TiAlN.

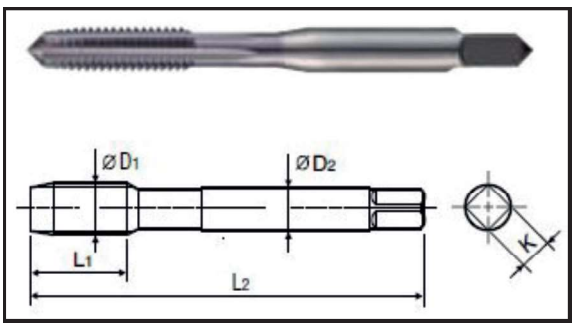
Machine tap M, short chamfer C, straight, white ring, DIN 371.
Material sintered HSS-Co, TiAlN coated.

ART. 12345
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12345040	**M 4**	0,70	63	12	4,5	3,4	6	21	4	3,3
12345050	**M 5**	0,80	70	13	6	4,9	8	25	4	4,2
12345060	**M 6**	1,00	80	15	6	4,9	8	30	4	5
12345080	**M 8**	1,25	90	18	8	6,2	9	35	4	6,8
12345100	**M 10**	1,50	100	20	10	8	11	39	4	8,5

Maschio M, imbocco corto, dritto, HM, per temprato, DIN 371
Tap M, short chamfer, straight, HM, for hardened, DIN 371

Art. 12350 GnuBo



Descrizione:
Maschio a macchina M, imbocco corto C, dritto, DIN 371. Per la lavorazione dell'acciaio temprato e dei materiali duri. Materiale HM con rivestimento TiCN.

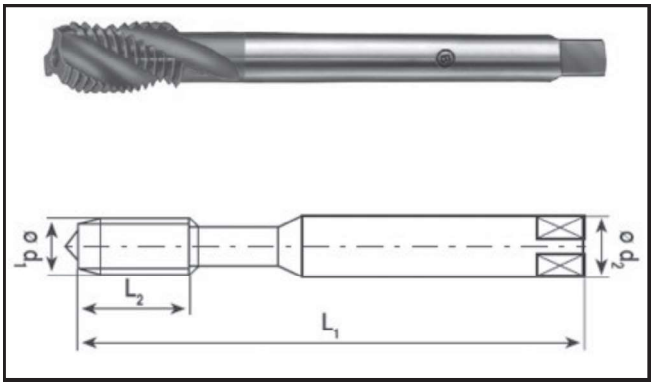
ART. 12350
Dati tecnici / Technical data

cod. code	filetto D_1 thread D_1	passo pitch [mm]	L_1 [mm]	L_2 [mm]	D_2 [mm]	K [mm]	diam. preforo tapping hole diam. [mm]
12350040	**M 4**	0,70	13	63	4,5	3,4	3,3
12350050	**M 5**	0,80	15	70	6	4,9	4,2
12350060	**M 6**	1,00	17	80	6	4,9	5
12350080	**M 8**	1,25	20	90	8	6,2	6,8
12350100	**M 10**	1,50	22	100	10	8	8,5

Description:
Machine tap M, short chamfer C, straight, DIN 371. For hardened steel and hard materials machining. Material HM

Maschio M, imbocco corto, elica 45°, per temprato, DIN 371
Tap M, short chamfer, helix 45°, ZHL, for hardened, DIN 371

Art. 12353 GnuBo



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 45°, DIN 371. Per la lavorazione dell'acciaio temprato e dei materiali duri. Materiale HSS-Co sinterizzato con rivestimento multistrato ZHL.

Machine tap M, short chamfer C, right helix 45°, DIN 371. For hardened steel and hard materials machining. Material sintered HSS-Co with ZHL multi-coating.

ART. 12353

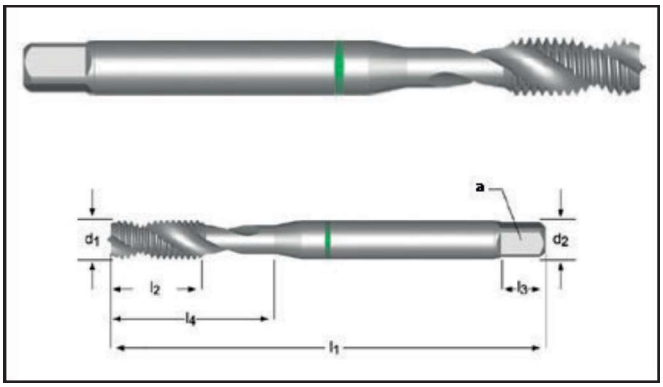
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1 [mm]	passo pitch [mm]	L_1 [mm]	L_2 [mm]	d_2 [mm]	[mm]	diam. preforo tapping hole diam. [mm]
12353040	**M 4**	0,70	63	7	4,5	3,4	3,3
12353050	**M 5**	0,80	70	8	6	4,9	4,2
12353060	**M 6**	1,00	80	10	6	4,9	5
12353080	**M 8**	1,25	90	12	8	6,2	6,75
12353100	**M 10**	1,50	100	15	10	8	8,5

Maschio M, imbocco corto, elica 35°, anello verde, DIN 371
Tap M, short chamfer, helix 35°, green ring, DIN 371

Art. 12355 DORMER

Cod. Fornitore: **E473**
Manufacturer code: **E473**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 35°, anello verde, DIN 371. Materiale HSS-Co sinterizzato.

Machine tap M, short chamfer C, right helix 35°, green ring, DIN 371. Material sintered HSS-Co.

ART. 12355

Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12355030	**M 3**	0,50	56	9	3,5	2,7	6	18	2	2,5
12355040	**M 4**	0,70	63	12	4,5	3,4	6	21	2	3,3
12355050	**M 5**	0,80	70	13	6	4,9	8	25	2	4,2
12355060	**M 6**	1,00	80	15	6	4,9	8	30	2	5
12355080	**M 8**	1,25	90	18	8	6,2	9	35	2	6,8
12355100	**M 10**	1,50	100	20	10	8	11	39	2	8,5

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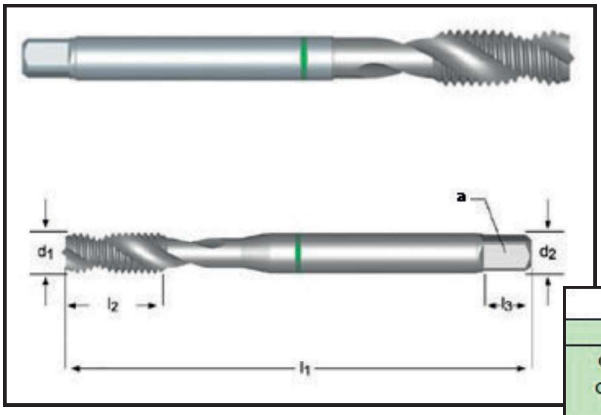
TRASMISSIONI

Maschio M, imbocco corto, elica 35°, anello verde, DIN 376
Tap M, short chamfer, helix 35°, green ring, DIN 376

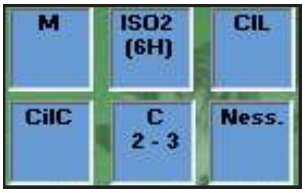
Art. 12357 DORMER

Cod. Fornitore: **E473**
Manufacturer code: **E473**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 35°, anello verde, DIN 376. Materiale HSS-Co sinterizzato.

Machine tap M, short chamfer C, right helix 35°, green ring,
DIN 376. Material sintered HSS-Co.



ART. 12357

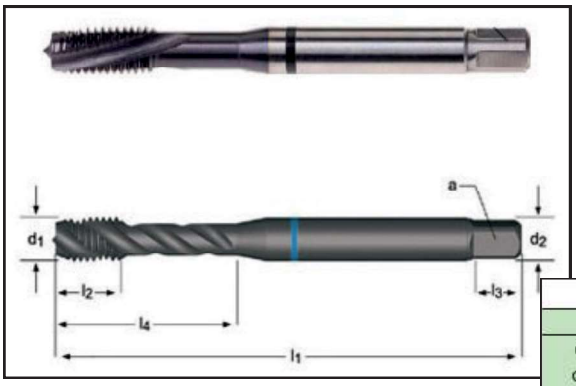
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12357120	**M 12**	1,75	110	23	9	7	10	3	10,3
12357160	**M 16**	2,00	110	25	12	9	12	3	14

Maschio M, imbocco corto, elica 15°, anello nero, TiAlN Top
Tap M, short chamfer, helix 15°, black ring, TiAlN Top

Art. 12361 DORMER

Cod. Fornitore: **E335**
Manufacturer code: **E335**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 15°, anello nero Black Shark. Materiale HSS-Co sinterizzato, rivestito TiAlN Top.

Machine tap M, short chamfer C, right helix 15°, black ring Black Shark. Material sintered HSS-Co, TiAlN Top coated.

ART. 12361

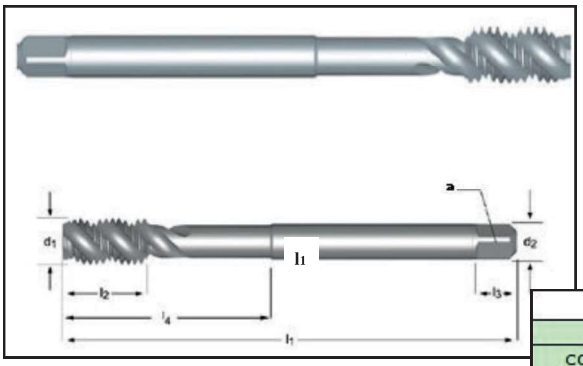
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12361040	**M 4**	0,70	70	13	6	4,9	8	26	3	3,3
12361050	**M 5**	0,80	80	15	6	4,9	8	31	3	4,2
12361060	**M 6**	1,00	90	18	8	6,2	9	35	3	5
12361080	**M 8**	1,25	100	20	10	8	11	41	3	6,8
12361100	**M 10**	1,50	100	20	10	8	11	39	3	8,5

Maschio M, imbocco corto, elica 40°, extra lungo, ISO 2283
Tap M, short chamfer, helix 40°, extra long, ISO 2283

Art. 12363 DORMER

Cod. Fornitore: **E605**
Manufacturer code: **E605**



Descrizione:
Maschio a macchina M, imbocco corto C, elica destra 40°, tipo extra lungo, ISO 2283. Materiale HSS-Co.

Machine tap M, short chamfer C, right helix 40°, extra long type, ISO 2283. Material HSS-Co.

ART. 12363

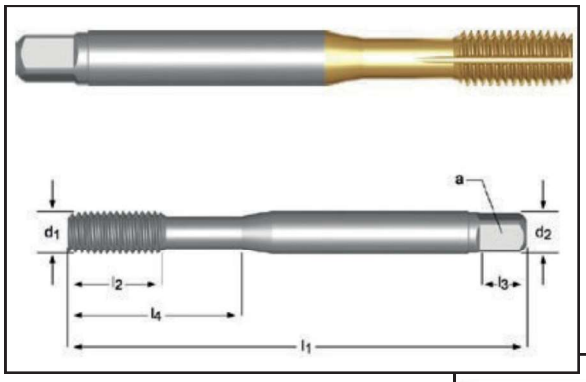
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12363030	**M 3**	0,50	66	9	3,15	3	5	21	2	2,5
12363050	**M 5**	0,80	79	12	5	4	7	26	3	4,2
12363060	**M 6**	1,00	89	12	6,3	5	8	29	3	5
12363080	**M 8**	1,25	97	12	6,3	5	8	-	3	6,8
12363100	**M 10**	1,50	108	14	8	6,3	9	-	3	8,5
12363120	**M 12**	1,75	119	23	9	7,1	10	-	3	10,3

Maschio a rullare M, ricoperto TiN, scanalatura, DIN 2174
Cold forming tap M, TiN coated, groove, DIN 2174

Art. 12372 DORMER

Cod. Fornitore: **E294**
Manufacturer code: **E294**



Descrizione:
Maschio a rullare M, ricoperto TiN, DIN 2174. Con scanalatura per una lubrificazione costante su tutta la filettatura. Materiale HSS-Co.

Cold forming tap M, TiN coated, DIN 2174. With groove for a constant lubrication on whole thread. Material sintered HSS.

ART. 12372

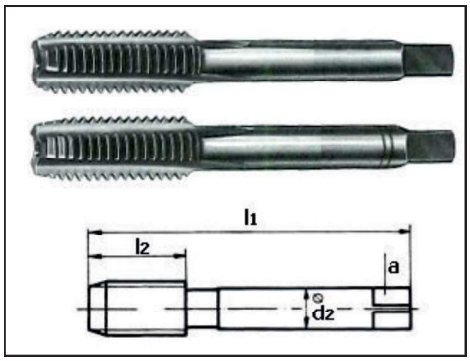
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	l_4 [mm]	z	diam. preforo tapping hole diam. [mm]
12372030	**M 3**	0,50	56	9	4	2,7	6	18	4	2,8
12372040	**M 4**	0,70	63	12	4,5	3,4	6	21	5	3,7
12372050	**M 5**	0,80	70	13	6	4,9	8	25	5	4,6
12372060	**M 6**	1,00	80	15	6	4,9	8	30	5	5,5
12372080	**M 8**	1,25	90	18	8	6,2	9	35	5	7,4
12372100	**M 10**	1,50	100	20	10	8	11	39	5	9,3

Serie di maschi a mano MF, DIN 2181
Hand roughing tap MF, DIN 2181

Maschi - Maschi a mano MF

Art. 12420 GnuBo



Descrizione:
Serie di maschi a mano MF, DIN 2181.
Materiale HSS.

Hand taps serie MF, DIN 2181. Material HSS.

ART. 12420

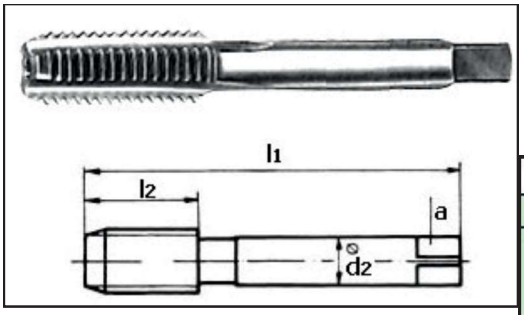
Dati tecnici / Technical data

cod. code	filetto thread	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 [mm]	a [mm]	diam. preforo tapping hole diam. [mm]
12420031	**M 5**	0,50	58	16	5	4	4,5
12420145	**M 10**	1,00	63	20	7	5,5	9
12420163	**M 10**	1,25	70	24	7	5,5	8,8
12420199	**M 12**	1,25	70	22	9	7	11
12420217	**M 12**	1,50	70	22	9	7	10,5
12420253	**M 14**	1,25	70	22	11	9	12,7
12420271	**M 14**	1,50	70	22	11	9	12,5
12420307	**M 16**	1,50	70	22	12	9	14,5
12420343	**M 18**	1,50	80	22	14	11	16,5
12420379	**M 20**	1,50	80	22	16	12	18,5
12420388	**M 20**	2,00	80	22	16	12	18
12420415	**M 22**	1,50	80	22	18	14,5	20,5
12420830	**M 36**	2,00	125	40	28	22,0	34

TABELLE PER FILETTATURE
PARAMETI DI TAGLIO PER MASCHI
DA PAG. 65..
Threading tables, Taps cutting parameters
From Page 65..

Maschio a mano finitore MF, DIN 2181
Hand bottoming tap MF, DIN 2181

Art. 12426 GnuBo



Descrizione:
Maschio a mano finitore MF, DIN 2181. Materiale HSS.

Hand bottoming tap MF, DIN 2181. Material HSS.

ART. 12426

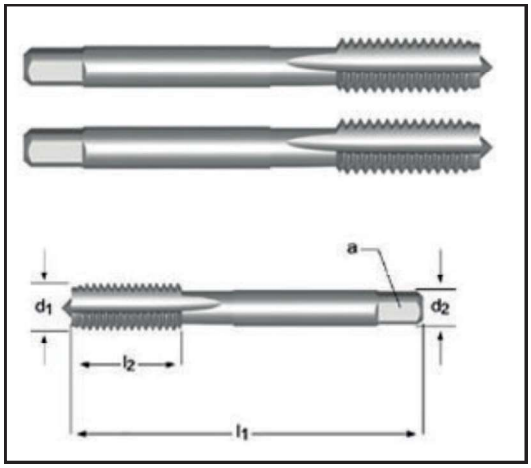
Dati tecnici / Technical data

cod. code	filetto thread	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 [mm]	a [mm]	diam. preforo tapping hole diam. [mm]
12426021	**M 4**	0,35	45	10	4,5	3,4	3,6
12426033	**M 4**	0,50	45	10	4,5	3,4	3,5
12426045	**M 5**	0,50	50	12	6	4,9	4,5
12426057	**M 6**	0,50	56	14	6	4,9	5,5
12426069	**M 6**	0,75	56	14	6	4,9	5,2
12426093	**M 8**	0,50	56	18	6	4,9	7,5
12426105	**M 8**	0,75	56	18	6	4,9	7,2
12426125	**M 9**	0,50	50	16	7	5,5	-
12426141	**M 10**	0,75	63	20	7	5,5	9,2
12426165	**M 10**	1,25	70	24	7	5,5	8,8
12426225	**M 13**	1,00	70	22	11	9	12
12426249	**M 14**	1,25	70	22	11	9	12,8
12426261	**M 14**	1,50	70	22	11	9	12,5
12426273	**M 15**	1,00	70	22	12	9	14
12426285	**M 15**	1,50	70	22	12	9	13,5
12426297	**M 16**	1,00	70	22	12	9	15
12426309	**M 16**	1,50	70	22	12	9	14,5
12426318	**M 18**	0,75	80	22	14	11	-
12426321	**M 18**	1,00	80	22	14	11	17
12426333	**M 18**	1,50	80	22	14	11	16,5
12426345	**M 20**	1,00	80	22	16	12	19
12426369	**M 20**	2,00	80	22	16	12	18
12426381	**M 22**	1,00	80	22	18	14,5	21
12426417	**M 24**	1,50	90	22	18	14,5	22,5
12426477	**M 27**	2,00	90	22	20	16	25
12426489	**M 28**	1,50	90	22	20	16	26,5
12426525	**M 30**	2,00	90	22	22	18	28
12426537	**M 32**	1,50	90	22	22	18	30,5
12426561	**M 35**	1,50	100	25	28	22	33,5
12426597	**M 40**	1,50	110	25	32	24	38,5

Serie di maschi MF, DIN 2181
Taps serie MF, DIN 2181

Art. 12453 DORMER

Cod. Fornitore: **E105**
Manufacturer code: **E105**



Descrizione:
Serie di maschi a mano MF, DIN 2181. Materiale HSS.

Hand taps serie MF, DIN 2181. Material HSS.

ART. 12453

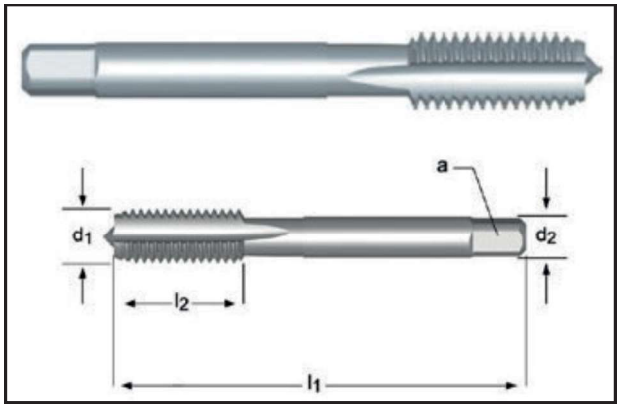
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12453145	**M 10**	1,00	63	16	7	5,5	3	9
12453163	**M 10**	1,25	70	22	7	5,5	3	8,8
12453181	**M 12**	1,00	70	16	9	7,0	3	11
12453217	**M 12**	1,50	70	16	9	7	3	10,5
12453271	**M 14**	1,50	70	16	11	9	4	12,5
12453415	**M 22**	1,50	80	18	16	12	4	18,5
12453451	**M 24**	1,50	90	22	18	14,5	4	22,5

Maschio finitore MF, DIN 2181
Bottoming tap MF, DIN 2181

Art. 12455 DORMER

Cod. Fornitore: **E105**
Manufacturer code: **E105**



Descrizione:
Maschio a mano finitore MF, DIN 2181. Materiale HSS.

Hand bottoming tap MF, DIN 2181. Material HSS.

ART. 12455

Dati tecnici / Technical data

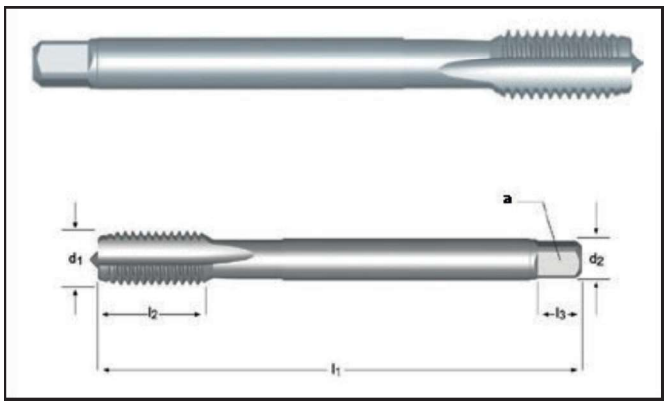
cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12455069	**M 6**	0,75	56	16	6	4,9	3	5,3
12455237	**M 14**	1,00	70	16	11	9	4	13
12455273	**M 15**	1,00	70	16	12	9	4	14
12455309	**M 16**	1,50	70	16	12	9	4	14,5
12455321	**M 18**	1,00	80	18	14	11	4	17
12455451	**M 24**	1,50	90	22	18	14,5	4	22,5
12455458	**M 24**	2,00	90	22	18	14,5	4	22

Maschio MF, imbocco corto, dritto, DIN 374
Tap MF, short chamfer, straight, DIN 374

Maschi - Maschi a macchina MF

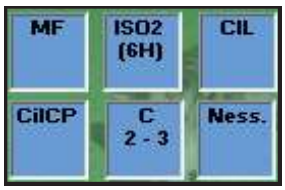
Art. 12460 DORMER

Cod. Fornitore: **E268**
Manufacturer code: **E268**



Descrizione:
Maschio a macchina MF, imbocco corto C, dritto, DIN 374. Materiale HSS-Co.

Machine tap MF, short chamfer C, straight, DIN 374. Material HSS-Co.



ART. 12460

Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12460031	**M 4**	0,50	63	10	2,8	2,1	5	3	3,5
12460057	**M 5**	0,50	70	13	3,5	2,7	6	3	4,5
12460083	**M 6**	0,75	80	15	4,5	3,4	6	3	5,3
12460109	**M 7**	0,75	80	15	5,5	4,3	7	3	6,3
12460128	**M 8**	0,75	80	15	6	4,9	8	3	7,3
12460135	**M 8**	1,00	90	18	6	4,9	8	3	7
12460161	**M 9**	1,00	90	18	6	4,9	8	3	8
12460167	**M 10**	0,75	90	20	7	5,5	8	3	9,3
12460174	**M 10**	1,00	90	20	7	5,5	8	3	9
12460187	**M 10**	1,25	100	20	7	5,5	8	3	9
12460213	**M 11**	1,00	90	20	8	6,2	9	3	10
12460239	**M 12**	1,00	100	21	9	7	10	4	11
12460265	**M 12**	1,25	100	21	9	7	10	4	10,8
12460291	**M 12**	1,50	100	21	9	7	10	4	10,5
12460317	**M 14**	1,00	100	21	11	9	12	4	13
12460330	**M 14**	1,25	100	21	11	9	12	4	12,8
12460343	**M 14**	1,50	100	21	11	9	12	4	12,5
12460395	**M 15**	1,50	100	21	12	9	12	4	13,5

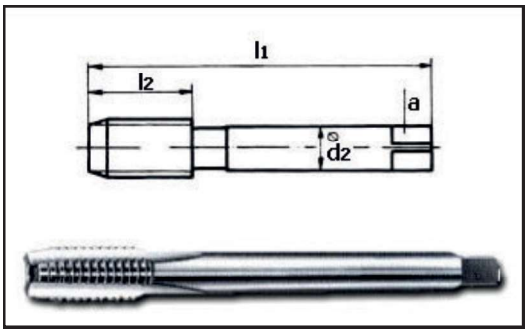
Continua alla pag.successiva ...

Continua dalla pag. precedente ...

ART. 12460									
Dati tecnici / Technical data									
cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12460421	**M 16**	1,00	100	21	12	9	12	4	15
12460447	**M 16**	1,50	100	21	12	9	12	4	14,5
12460473	**M 18**	1,00	110	24	14	11	14	4	17
12460486	**M 18**	1,50	110	24	14	11	14	4	16,5
12460512	**M 20**	1,00	125	24	16	12	15	4	19
12460518	**M 20**	1,50	125	24	16	12	15	4	18,5
12460551	**M 22**	1,00	125	25	18	14,5	17	4	21
12460564	**M 22**	1,50	125	25	18	14,5	17	4	20,5
12460590	**M 24**	1,00	140	28	18	14,5	17	4	23,0
12460603	**M 24**	1,50	140	28	18	14,5	17	4	22,5
12460616	**M 24**	2,00	140	28	18	14,5	17	4	22
12460642	**M 25**	1,50	140	28	18	14,5	17	4	23,5
12460616	**M 24**	2,00	140	28	18	14,5	17	4	22
12460668	**M 26**	1,50	140	28	18	14,5	17	4	24,5
12460688	**M 27**	1,50	140	28	20	16	19	4	26
12460694	**M 27**	2,00	140	28	20	16	19	4	25
12460720	**M 28**	1,50	140	28	20	16	19	4	26,5
12460759	**M 30**	1,50	150	28	22	18	21	4	28,5
12460772	**M 30**	2,00	150	28	22	18	21	4	28
12460798	**M 32**	1,50	150	28	22	18	21	4	30,5
12460811	**M 36**	2,00	170	30	28	22	25	4	34,00
12460821	**M 42**	1,50	170	30	32	24	27	4	40,5
12460871	**M 45**	1,50	180	32	36	29	32	6	43,5

Maschio MF, imbocco corto, dritto, DIN 374
Tap MF, short chamfer, straight, DIN 374

Art. 12462 GnuBo



Descrizione:
Maschio a macchina MF, imbocco corto C, dritto, DIN 374.
Materiale HSS-Co.

Machine tap MF, short chamfer C, straight, DIN 374.
Material HSS-Co.

ART. 12462							
Dati tecnici / Technical data							
cod. code	filetto thread	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 [mm]	a [mm]	diam. preforo tapping hole diam. [mm]
12462230	**M 12**	0,75	100	12	9	7	11,25
12462369	**M 15**	1,00	100	18	12	9	14
12462430	**M 16**	1,25	100	18	12	9	14,75
12462460	**M 17**	1,00	100	18	12	9	16
12462525	**M 20**	2,00	125	25	16	12	18
12652630	**M 25**	1,00	140	18	18	14,5	24
12462660	**M 26**	1,00	140	18	20	16	25
12462710	**M 28**	1,00	150	18	20	16	27

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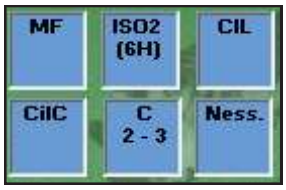
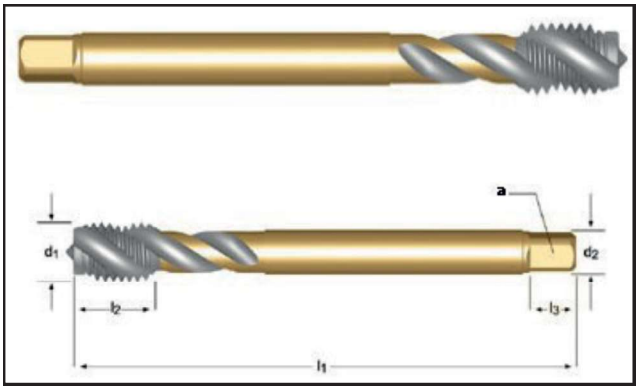
Maschio MF, imbocco corto, elica 45°, DIN 374
Tap MF, short chamfer, helix 45°, DIN 374

Art. 12478 DORMER

Cod. Fornitore: **EX10**
Manufacturer code: **EX10**





Descrizione:
Maschio a macchina MF, imbocco corto C, elica destra 45°, DIN 374. Materiale HSS-Co.

Machine tap MF, short chamfer C, right helix 45°, DIN 374. Material HSS-Co.

ART. 12478

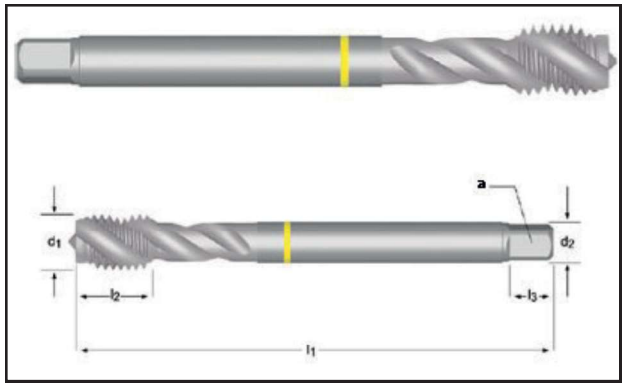
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a ▧ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12478161	**M 8**	1,00	90	13	6	5	8	3	7
12478187	**M 10**	1,00	90	13	7	5,5	8	3	9
12478213	**M 12**	1,50	100	15	9	7	10	3	10,5
12478421	**M 14**	1,50	100	15	11	9	12	3	12,5
12478447	**M 16**	1,50	100	15	12	9	12	4	14,5

Maschio MF, imbocco corto, elica 40°, anello giallo, DIN 374
Tap MF, short chamfer, helix 40°, yellow ring, DIN 374

Art. 12480 DORMER

Cod. Fornitore: **E300**
Manufacturer code: **E300**



Descrizione:
Maschio a macchina MF, imbocco corto C, elica destra 40°, anello giallo, DIN 374. Materiale HSS-Co sinterizzato cromato.

Machine tap MF, short chamfer C, right helix 40°, yellow ring, DIN 374.
Material chromium plated sintered HSS-Co.

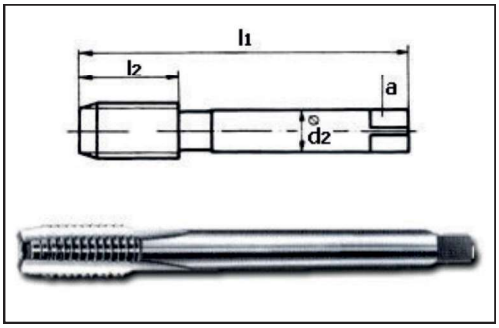
ART. 12480

Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a ▧ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12480031	**M 4**	0,50	63	6,5	2,8	2,1	5	3	3,5
12480057	**M 5**	0,50	70	7,5	3,5	2,7	6	3	4,5
12480083	**M 6**	0,75	80	10	4,5	3,4	6	3	5,3
12480128	**M 8**	0,75	80	13	6	4,9	8	3	7,3
12480138	**M 8**	1,00	90	13	6	4,9	8	3	7
12480167	**M 10**	0,75	90	13	7	5,5	8	3	9,3
12480177	**M 10**	1,00	90	12	7	5,5	8	3	9
12480187	**M 10**	1,25	100	15	7	5,5	8	3	8,8
12480262	**M 12**	1,00	100	15	9	7,0	10	4	11
12480265	**M 12**	1,25	100	13	9	7	10	4	10,8
12480291	**M 12**	1,50	100	13	9	7	10	4	10,5
12480317	**M 14**	1,00	100	15	11	9	12	4	13
12480330	**M 14**	1,25	100	15	11	9	12	4	12,8
12480343	**M 14**	1,50	100	15	11	9	12	4	12,5
12480421	**M 16**	1,00	100	15	12	9	12	5	15
12480430	**M 16**	1,50	100	15	12	9	12	5	15

Maschio a macchina BSW, imbocco C, dritto, DIN 2184-1
Machine tap BSW, chamfer C, straight, DIN 2184-1

Art. 12532 GnuBo



Descrizione:
Maschio a macchina BSW, imbocco corto C, dritto, DIN 2184-1. Materiale HSS-Co.

Machine tap BSW, short chamfer C, straight, DIN 2184-1. Material HSS-Co.

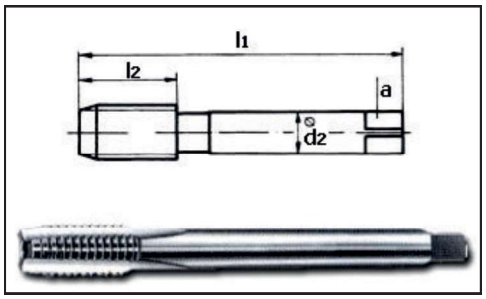
ART. 12532

Dati tecnici / Technical data

cod. code	filetto thread	passo pitch	l_1 [mm]	l_2 [mm]	d [mm]	d_2 [mm]	a [mm]	diam. preforo tapping hole diam. [mm]
12532069	**W 1/8"**	40	56	10	3,17	3,5	2,7	2,5
12532133	**W 3/16"**	24	70	12	4,76	6	4,9	3,6
12532165	**W 1/4"**	20	80	16	6,35	7	5,5	5
12532197	**W 5/16"**	18	90	18	7,94	8	6,2	6,5
12532229	**W 3/8"**	16	100	22	9,53	10	7	7,9
12532261	**W 7/16"**	14	100	20	11,11	8	6,2	9,2
12532293	**W 1/2"**	12	110	25	12,7	9	7	10,4
12532357	**W 5/8"**	11	110	25	15,88	12	9	13,4
12532389	**W 3/4"**	10	125	32	19,05	14	11	16,3
12532421	**W 7/8"**	9	140	32	22,23	18	14,5	19,25
12532453	**W 1"**	8	160	36	25,4	20	16	22

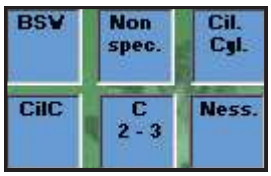
Maschio BSW, imbocco corto, dritto, per ottone, DIN 371
Tap BSW, short chamfer, straight, or brass, DIN 371

Art. 12538 GnuBo



Descrizione:
Maschio a macchina BSW, imbocco corto C, dritto, DIN 371. Per la lavorazione dell'ottone. Materiale HSS-Co.

Machine tap BSW, short chamfer C, straight, DIN 371. For brass machining. Material HSS-Co.



ART. 12538

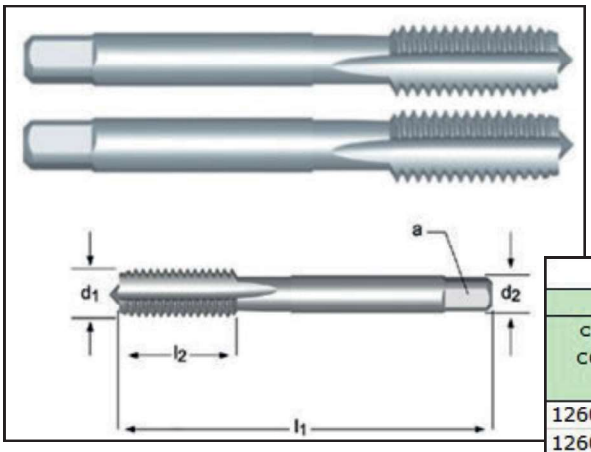
Dati tecnici / Technical data

cod. code	filetto thread	passo pitch	l_1 [mm]	l_2 [mm]	d [mm]	d_2 [mm]	a [mm]	diam. preforo tapping hole diam. [mm]
12538133	**W 3/16"**	24	70	12	4,76	6	4,9	3,6
12538165	**W 1/4"**	20	80	16	6,35	7	5,5	5

Serie di maschi a mano G, DIN 5157
Hand taps serie G, DIN5157

Maschi - Maschi a mano GAS

Art. 12605 DORMER



Descrizione:
Serie di maschi a mano G , DIN 5157. Materiale HSS.

Hand taps serie G, DIN5157. Material HSS.

Cod. Fornitore: **E119**
Manufacturer code: **E119**

ART. 12605

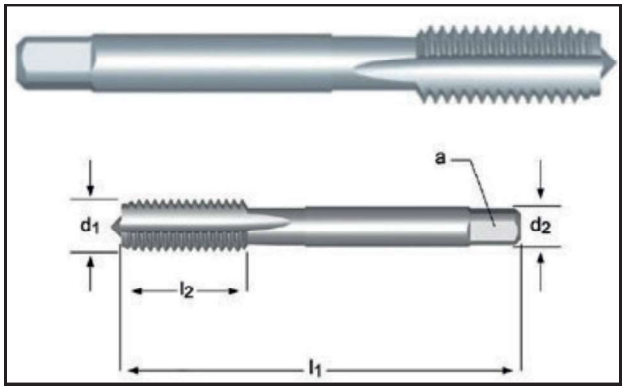
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [TPI]	d_1 nom [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12605069	**G 1/8"**	28	9,73	63	15	7	5,5	3	8,8
12605165	**G 1/4"**	19	13,16	70	16	11	9	4	11,8
12605229	**G 3/8"**	19	16,66	70	16	12	9	4	15,25
12605293	**G 1/2"**	19	20,96	80	18	16	12	4	19
12605389	**G 3/4"**	14	26,44	90	22	20	16	4	24,5
12605453	**G 1"**	11	33,25	100	25	25	20	6	30,8

Maschio a mano finitore G, DIN 5157
Hand bottoming tap G, DIN 5157

Art. 12608 DORMER

Cod. Fornitore: **E119**
Manufacturer code: **E119**



Descrizione:
Maschio a mano finitore G, DIN 5157. Materiale HSS.

Hand bottoming tap G, DIN 5157. Material HSS.

ART. 12608

Dati tecnici / Technical data

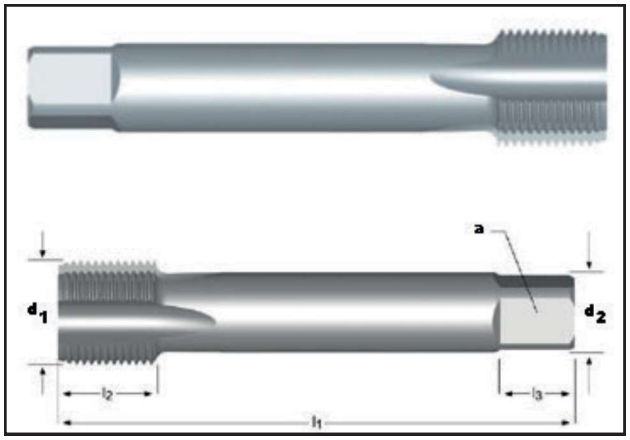
cod. code	filetto d_1 thread d_1	passo pitch [TPI]	d_1 nom [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	z	diam. preforo tapping hole diam. [mm]
12608069	**G 1/8"**	28	9,73	63	15	7	5,5	3	8,8
12608165	**G 1/4"**	19	13,16	70	16	11	9	4	11,8
12608229	**G 3/8"**	19	16,66	70	16	12	9	4	15,25
12608293	**G 1/2"**	14	20,96	80	18	16	12	4	19,00
12608357	**G 5/8"**	14	22,91	80	22	18	14,5	4	21
12608453	**G 1"**	11	33,25	100	25	25	20,0	6	30,75
12608517	**G 1"1/4**	11	41,91	125	40	32	24	6	39,5
12608549	**G 1"1/2**	11	47,8	140	40	36	29	6	45

Maschi - Maschi a macchina GAS

Maschio G, imbocco corto, dritto, DIN 5156
Tap G, short chamfer, straight, DIN 5156

Art. 12612 DORMER

Cod. Fornitore: **E282**
Manufacturer code: **E282**



Descrizione:
Maschio a macchina GAS, imbocco corto C, dritto, DIN 5156. Materiale HSS-Co.

Machine tap GAS, short chamfer C, straight, DIN 5156. Material HSS-Co.

ART. 12612

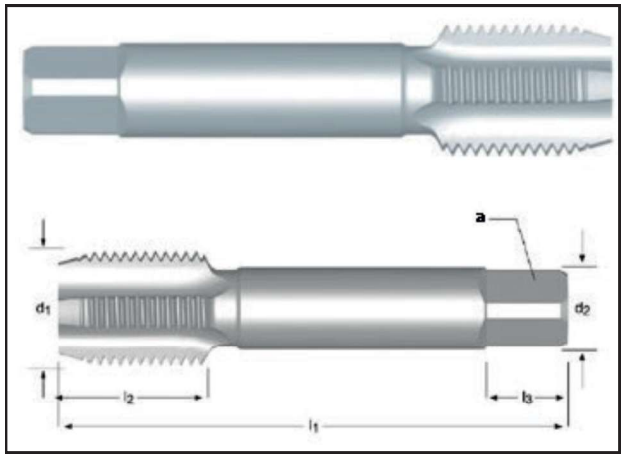
Dati tecnici / Technical data

cod. code	filetto thread	passo pitch [TPI]	d_1 nom [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12612030	**G 1/8"**	28	9,73	90	20	7	6	8	3	8,8
12612050	**G 1/4"**	19	13,16	100	21	11	9	12	4	11,8
12612070	**G 3/8"**	19	16,66	100	21	12	9	12	4	15,25
12612090	**G 1/2"**	14	20,96	125	24	16	12	15	4	19
12612389	**G 3/4"**	14	26,44	140	28	20	16	19	4	24,5
12612453	**G 1"**	11	33,25	160	30	25	20	23	4	30,75
12612517	**G 1"1/4**	11	41,91	170	30	32	24	27	4	39,5
12612549	**G 1"1/2**	11	47,8	190	32	36	29	32	6	45

Maschio G, imbocco corto, dritto, per ottone, ISO 2284
Tap G, short chamfer, straight, for brass, ISO 2284

Art. 12618 DORMER

Cod. Fornitore: **E547**
Manufacturer code: **E547**



Descrizione:
Maschio a macchina GAS, imbocco corto C, dritto, ISO 2284. Per la lavorazione dell'ottone e delle leghe di rame. Materiale HSS-Co.

Machine tap GAS, short chamfer C, straight, ISO 2284. For brass and copper alloys machining. Material HSS-Co.

ART. 12618

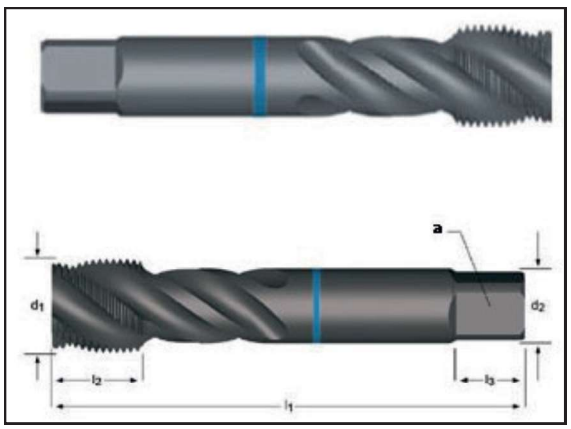
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	[mm]	passo pitch [TPI]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a ▧ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12618069	**G 1/8"**	9,728	28	59	15	8	6,3	9	4	8,8
12618165	**G 1/4"**	13,157	19	67	19	10	8	11	4	11,8
12618229	**G 3/8"**	16,662	19	75	21	12,5	10	13	4	15,25
12618293	**G 1/2"**	20,955	14	87	26	16	12,5	16	4	19
12618389	**G 3/4"**	26,441	14	96	28	20	16	20	4	24,5
12618453	**G 1"**	33,249	11	109	33	25	20	24	4	30,75

Maschio G, imbocco corto, elica 40°, anello blu, DIN 5156
Tap G, short chamfer, helix 40°, blue ring, DIN 5156

Art. 12626 DORMER

Cod. Fornitore: **E382**
Manufacturer code: **E382**



Descrizione:
Maschio a macchina G, imbocco corto C, elica destra 40°, anello blu, DIN 5156. Materiale HSS-Co sinterizzato vaporizzato.

Machine tap G, short chamfer C, right helix 40°, blue ring, DIN 5156. Material steamed sintered HSS-Co.

ART. 12626

Dati tecnici / Technical data

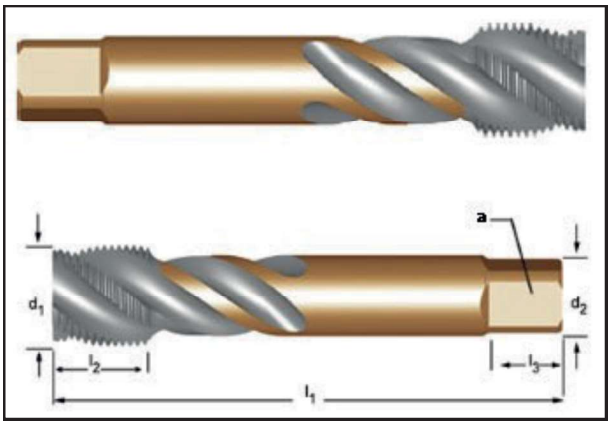
cod. code	filetto thread	passo pitch [TPI]	d_1 nom [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a ▧ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12626069	**G 1/8"**	28	9,728	90	12	7	5,5	8	3	8,8
12626165	**G 1/4"**	19	13,16	100	15	11	9	12	4	11,8
12626229	**G 3/8"**	19	16,66	100	15	12	9	12	4	15,2
12626293	**G 1/2"**	14	20,96	125	24	16	12	15	4	19

Maschi - Maschi a macchina GAS - Maschi per rubinetteria GAS

Maschio G, imbocco corto, elica 45°, DIN 5156
Tap G, short chamfer, helix 45°, DIN 5156

Art. 12628 DORMER

Cod. Fornitore: **EX40**
Manufacturer code: **EX40**



Descrizione:
Maschio a macchina G, imbocco corto C, elica destra 45°, DIN 5156. Materiale HSS-Co.

Machine tap G, short chamfer C, right helix 45°, DIN 5156. Material HSS-Co.

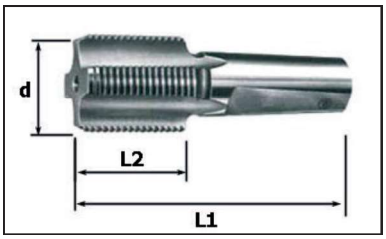
ART. 12628
Dati tecnici / Technical data

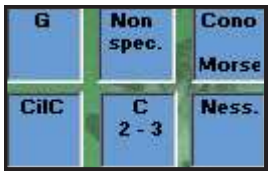
cod. code	filetto thread	passo pitch [TPI]	d_1 nom [mm]	l_1 [mm]	l_2 [mm]	d_2 ø [mm]	a ▽ [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12628069	**G 1/8"**	28	9,728	90	13	7	5,5	8	3	8,8
12628165	**G 1/4"**	19	13,157	100	15	11	9	12	3	11,8
12628229	**G 3/8"**	19	16,662	100	15	12	9	12	4	15,25
12628293	**G 1/2"**	14	20,955	125	18	16	12	15	4	19
12628389	**G 3/4"**	14	26,441	140	20	20	16	19	4	24,5

Maschi - Maschi per rubinetteria GAS

Maschio per rubinetteria GAS, imbocco C, codolo conico
Valves tap GAS, chamfer C, taper shank

Art. 12640 GnuBo





Descrizione:
Maschio per rubinetteria GAS, imbocco corto C, codolo conico. Materiale HSS.

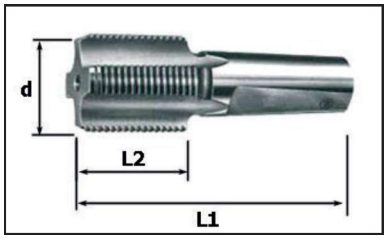
Valves tap GAS, short chamfer C, taper shank. Material HSS.

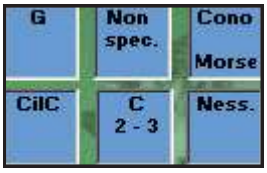
ART. 12640
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	L1 [mm]	L2 [mm]	codolo shank
12640069	**G 1/8"**	28	70	30	CM1
12640165	**G 1/4"**	19	70	30	CM1
12640229	**G 3/8"**	19	80	40	CM2
12640293	**G 1/2"**	14	80	30	CM2
12640357	**G 5/8"**	14	80	35	CM2
12640389	**G 3/4"**	14	80	35	CM2
12640421	**G 7/8"**	14	85	35	CM2
12640453	**G 1"**	11	88	38	CM2
12640517	**G 1 1/4"**	11	90	35	CM3
12640549	**G 1 1/2"**	11	90	35	CM3
12640581	**G 2"**	11	90	35	CM3

Maschio per rubinetteria GAS, imbocco C, elica sinistra, codolo conico
Valves tap GAS, chamfer C, left helix, taper shank

Art. 12660 GnuBo





ART. 12660
Dati tecnici / Technical data

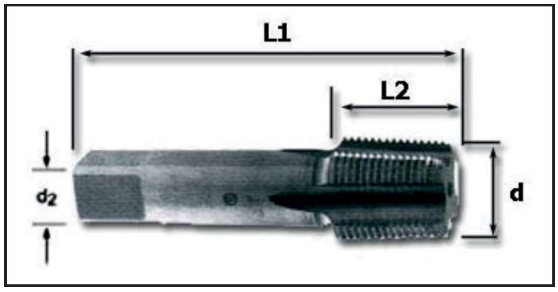
cod. code	filetto d thread d	passo pitch	L1 [mm]	L2 [mm]	codolo shank
12660229	**G 3/8"**	19	85	45	CM2
12660293	**G 1/2"**	14	85	35	CM2

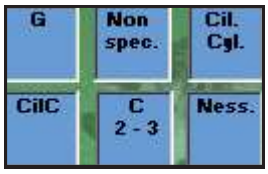
Descrizione:
Maschio per rubinetteria GAS, imbocco corto C, elica sinistra, codolo conico. Materiale HSS.

Valves tap GAS, short chamfer C, left hand cutting, taper shank. Material HSS.

Maschio per rubinetteria GAS, imbocco C, +0,20, simile DIN 371
Valves tap GAS, chamfer C, +0,20, similar to DIN 371

Art. 12670 GnuBo





Descrizione:
Maschio per rubinetteria GAS, imbocco corto C, maggiorato +0,20, simile DIN 371. Materiale HSS.

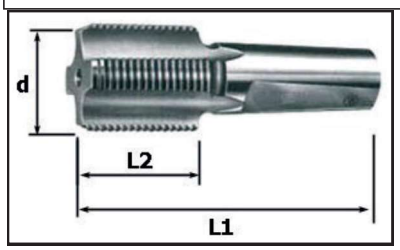
Valves tap GAS, short chamfer C, oversized +0,20, similar to DIN 371. Material HSS.

ART. 12670
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	L1 [mm]	L2 [mm]	d2 [mm]	quadro square [mm]	maggor. oversize ["]
12670165	**G 1/4"**	19	100	20	11	9	2/10
12670229	**G 3/8"**	19	100	25	12	9	2/10
12670293	**G 1/2"**	14	100	30	16	12	2/10
12670389	**G 3/4"**	14	120	35	20	16	2/10

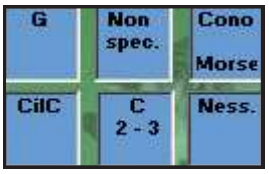
Maschio G, imbocco corto, +0,20, codolo conico
Tap G, short chamfer, +0,20, taper shank

Art. 12690 GnuBo



ART. 12690
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	L1 [mm]	L2 [mm]	maggior. oversize ["]	codolo shank
12690293	**G 1/2"**	14	85	35	2/10	CM2
12690389	**G 3/4"**	14	85	35	2/10	CM2
12690453	**G 1"**	11	87	35	2/10	CM2
12690517	**G 1 1/4"**	11	90	35	2/10	CM3
12690549	**G 1 1/2"**	11	92	35	2/10	CM3



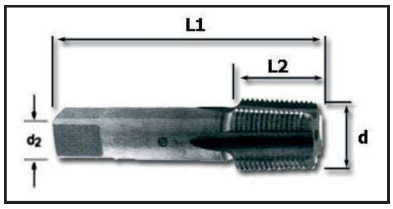
Descrizione:
Maschio per rubinetteria GAS, imbocco corto C, maggiorato +0,20, codolo conico. Materiale HSS.

Valves tap GAS, short chamfer C, oversized +0,20, taper shank. Material HSS.

Maschi - Maschi per rubinetteria Rc (BSPT)

Maschio per rubinetteria Rc (BSPT), imbocco C, simile DIN 371
Valves tap Rc (BSPT), chamfer C, similar to DIN 371

Art. 12710 GnuBo



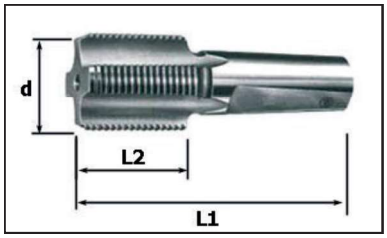
ART. 12710
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	L1 [mm]	L2 [mm]	d2 [mm]	quadro square [mm]
12710069	**BSPT 1/8"**	28	100	20	8	6
12710165	**BSPT 1/4"**	19	110	25	11	9
12710293	**BSPT 1/2"**	14	90	30	16	12,5

Descrizione:
Maschio per rubinetteria Rc (BSPT), imbocco corto C, simile DIN 371. Materiale HSS.
Valves tap Rc (BSPT), short chamfer C, similar to DIN 371. Material HSS.

Maschio per rubinetteria Rc (BSPT), imbocco C, codolo conico
Valves tap Rc (BSPT), chamfer C, taper shank

Art. 12740 GnuBo



Descrizione:
Maschio per rubinetteria Rc (BSPT), imbocco corto C, codolo conico. Materiale HSS.

Valves tap Rc (BSPT), short chamfer C, taper shank. Material HSS.

ART. 12740
Dati tecnici / Technical data

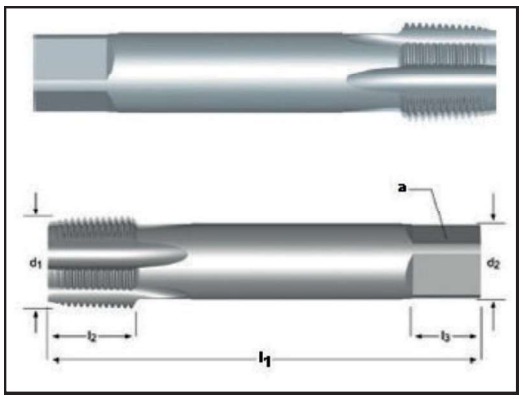
cod. code	filetto d_1 thread d_1	passo pitch	L_1 [mm]	L_2 [mm]	codolo shank
12740165	**BSPT 1/4"**	19	70	30	CM1
12760293	**BSPT 1/2"**	14	80	35	CM2

Maschi - Maschi a macchina NPT -Maschi per rubinetteria NPT
Maschi per rubinetteria F19

Maschio NPT, imbocco corto, dritto
Tap NPT, short chamfer, straight

Art. 12762 DORMER

Cod. Fornitore: **E714**
Manufacturer code: **E714**



Descrizione:
Maschio a macchina NPT, imbocco corto C, dritto. Materiale HSS-Co.

Machine tap NPT, short chamfer C, straight. Material HSS-Co.

ART. 12762

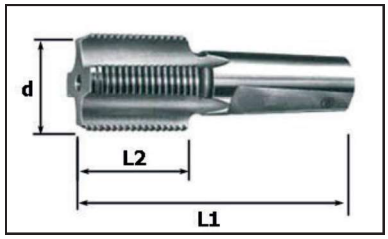
Dati tecnici / Technical data

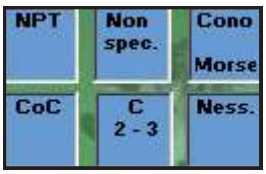
cod. code	filetto thread	passo pitch [TPI]	d_1 nom [mm]	l_1 [mm]	l_2 [mm]	d_2 Ø [mm]	a [mm]	l_3 [mm]	z	diam. preforo tapping hole diam. [mm]
12762069	**G 1/8"**	27	10,23	90	14	11	9	12	3	8,5
12762165	**G 1/4"**	18	13,6	100	20	14	11	14	3	11
12762229	**G 3/8"**	18	17,4	110	20	16	12	15	4	14,5
12762293	**G 1/2"**	14	21,2	125	26	18	14,5	17	4	18
12762453	**G 1"**	11,5	33,2	150	31	28	22	25	5	29

Maschi - Maschi per rubinetteria NPT

Maschio per rubinetteria NPT, imbocco C, codolo conico
Valves tap NPT, chamfer C, taper shank

Art. 12780 GnuBo





Descrizione:
Maschio per rubinetteria NPT, imbocco corto C, codolo conico. Materiale HSS.

Valves tap NPT, short chamfer C, taper shank. Material HSS.

ART. 12780

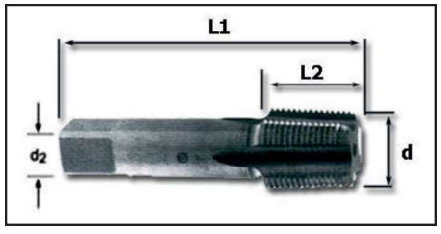
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	L1 [mm]	L2 [mm]	codolo shank
12780069	**NPT 1/8"**	27	70	35	CM1
12780165	**NPT 1/4"**	18	85	40	CM2
12780229	**NPT 3/8"**	18	85	25	CM1
12780293	**NPT 1/2"**	14	80	30	CM2
12780389	**NPT 3/4"**	14	80	30	CM2

Maschi - Maschi per rubinetteria F19

Maschio per rubinetteria F19, imbocco C, simile a DIN 371
Valves tap F19, chamfer C, similar to DIN 371

Art. 12810 GnuBo



Descrizione:
Maschio per rubinetteria F19, imbocco corto C, simile a DIN 371. Materiale HSS.

Valves tap F19, short chamfer C, similar to DIN 371. Material HSS.

ART. 12810

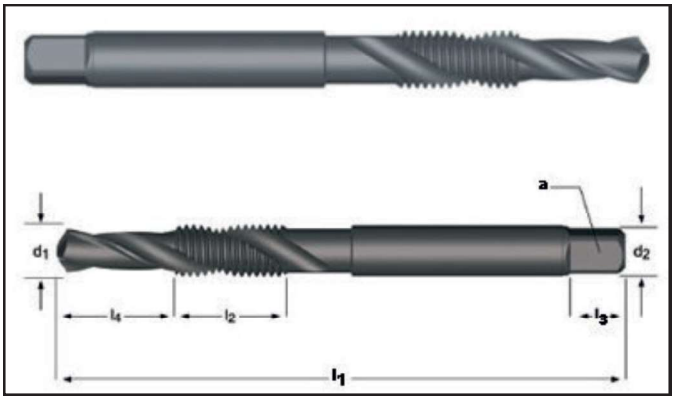
Dati tecnici / Technical data

cod. code	d [mm]	n° filetti/pollice n° threads/inch	L1 [mm]	L2 [mm]	d2 [mm]	quadro square [mm]
12810021	**12**	19	110	25	9	7
12810039	**14**	19	100	30	11	9
12810057	**15**	19	100	30	12	9
12810075	**18**	19	100	30	14	11
12810093	**22**	19	120	35	18	14,5
12810270	**27**	19				
12810330	**33**	19	140	40	27	22

Punta maschiatrice M corta, imbocco C
Combination jobber drill tap M, chamfer C

Art. 12860 DORMER

Cod. Fornitore: **E650**
Manufacturer code: **E650**



Descrizione:
Punta maschiatrice M corta, imbocco corto C, elica 30°, vaporizzata. Materiale HSS.

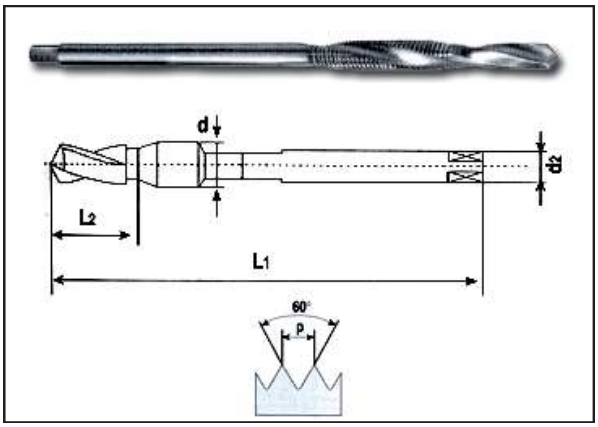
Combination jobber drill tap M, short chamfer C, helix 30°, steamed. Material HSS.

ART. 12860
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1	passo pitch [mm]	d_1 [mm]	l_1 [mm]	l_2 [mm]	l_4 [mm]	d_2 [mm]	a [mm]	l_3 [mm]	z
12860037	**M 3**	0,50	2,5	56	10	6	3,15	2,5	5	2
12860053	**M 4**	0,70	3,3	65	12	8	4	3,15	6	2
12860069	**M 5**	0,80	4,2	69	15	10	5	4	7	2
12860085	**M 6**	1,00	5	84	18	12	6,3	5	8	2
12860101	**M 8**	1,25	6,8	96	21	16	8	6,3	9	2
12860107	**M 10**	1,50	8,5	108	22	20	10	8	11	2

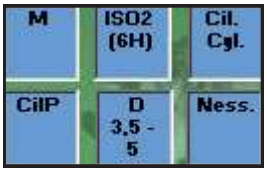
Punta maschiatrice M corta, imbocco D
Combination jobber drill tap M, chamfer D

Art. 12863 GnuBo



Descrizione:
Punta maschiatrice M corta, imbocco intermedio D. Materiale HSS-Co.

Combination jobber drill tap M, intermediate chamfer D. Material HSS-Co.



ART. 12863
Dati tecnici / Technical data

cod. code	filetto d thread d	P [mm]	L_1 [mm]	L_2 [mm]	d_2 [mm]	diam. punta drill's diam. [mm]
12863030	**M 3**	0,50	62	9	3,5	2,5
12863040	**M 4**	0,70	66	10	4,5	3,3
12863050	**M 5**	0,80	75,5	12,5	6	4,2
12863060	**M 6**	1,00	81	14	6	5
12863080	**M 8**	1,25	93	20	6	6,75
12863100	**M 10**	1,50	99	22	7	8,5

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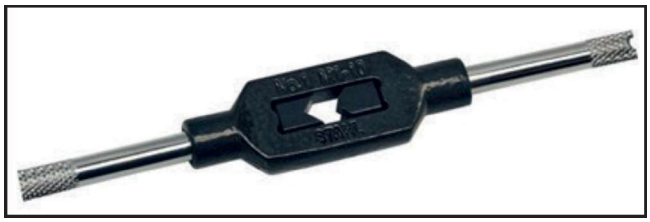
IL RISPARMIO DI TEMPO E COSTI PER LE TUE SOLUZIONI DI LAVORO

Giramaschi regolabile
Adjustable tap wrench

Art. 12953 GnuBo



Descrizione:
Giramaschi regolabile DIN 1814, in acciaio ad altissima resistenza, corpo laccato con leve lucide, tasselli di bloccaggio tempreti e rettificati. Qualità extra.

Adjustable tap wrench DIN 1814, made of very high resistance steel, lacquered body with polished levers, hardened and ground locking plugs. Extra quality.

ART. 12953

Dati tecnici / Technical data

cod. code	misura size	dimensione quadro square dimension [mm]	filetto thread [mm]	filetto thread ["]
12953000	*0*	2 - 5	**M1 - M8**	1/16 - 1/4
12953010	*1*	2 - 6,3	**M1 - M10**	1/16 - 3/8
12953020	*2*	3 - 9	**M4 - M12**	5/32 - 1/2
12953030	*3*	4,9 - 12	**M5 - M20**	7/32 - 3/4
12953040	*4*	5,5 - 16	**M11 - M27**	7/16 - 1
12953050	*5*	7 - 20	**M13 - M32**	1/2 - 1 1/4

Giramaschi a mandrino con cricca, modello corto
Tap wrench with jaw chuck, short kind

Art. 12957 GnuBo

Descrizione:
Giramaschi a mandrino con cricca, modello corto.

Tap wrench with jaw chuck, short kind.

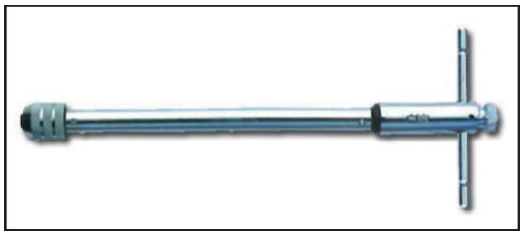
ART. 12957

Dati tecnici / Technical data

cod. code	misura size	filetto thread	quadro tap capacity [mm]	lungh. totale total length [mm]
12957030	*1*	**M3 - M8**	2 - 5	85
12957050	*2*	**M5 - M12**	4,6 - 8	110

Giramaschi a mandrino con cricca, modello lungo
Tap wrench with jaw chuck, long kind

Art. 12974 GnuBo



ART. 12974

Dati tecnici / Technical data

cod. code	misura size	filetto thread	quadro tap capacity [mm]	lungh. totale total length [mm]
12974030	*1*	**M3 - M8**	2 - 5	250
12974050	*2*	**M5 - M12**	4,6 - 8	300

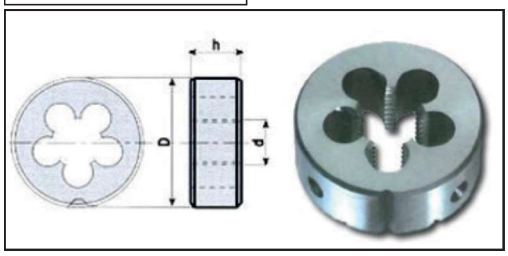
Descrizione:
Giramaschi a mandrino con cricca, modello lungo.

Tap wrench G and H with jaw chuck, long kind

Filiera tonda M
Circular die M

Art. 13020 DORMER

Cod. Fornitore: **F100**
Manufacturer code: **F100**



M | ISO (6g)

Descrizione:
Filiera tonda M con imbocco corretto, DIN-EN 22 568. Materiale HSS.

Circular die M with chamfer, DIN-EN 22 568. Material HSS.

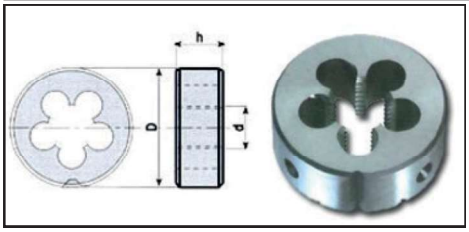
ART. 13020
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]	cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13020030	**M 3**	0,50	20	5	13020140	**M 14**	2,00	38	14
13020035	**M 3,5**	0,60	20	5	13020160	**M 16**	2,00	45	18
13020040	**M 4**	0,70	20	5	13020180	**M 18**	2,50	45	18
13020050	**M 5**	0,80	20	7	13020200	**M 20**	2,50	45	18
13020060	**M 6**	1,00	20	7	13020220	**M 22**	2,50	55	22
13020070	**M 7**	1,00	25	9	13020240	**M 24**	3,00	55	22
13020080	**M 8**	1,25	25	9	13020270	**M 27**	3,00	65	25
13020090	**M 9**	1,25	25	9	13020300	**M 30**	3,50	65	25
13020100	**M 10**	1,50	30	11	13020360	**M 36**	4,00	65	25
13020120	**M 12**	1,50	38	14					

Filiera tonda M sinistrorsa
Circular die M, left hand cutting

Art. 13024 DORMER

Cod. Fornitore: **F201**
Manufacturer code: **F201**



M | ISO (6g)

Descrizione:
Filiera tonda M sinistrorsa con imbocco corretto, DIN-EN 22 568. Materiale HSS.

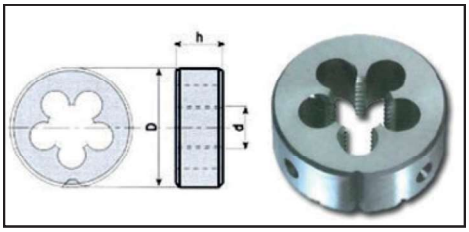
Circular die M with chamfer, left hand cutting, DIN-EN 22 568. Material HSS.

ART. 13024
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13024040	**M 4**	0,70	20	5
13024050	**M 5**	0,80	20	7
13024060	**M 6**	1,00	20	7
13024080	**M 8**	1,25	25	9
13024100	**M 10**	1,50	30	11
13024120	**M 12**	1,75	38	14
13024140	**M 14**	2,00	38	14
13024160	**M 16**	2,00	45	18

Filiera tonda M, per ottone
Circular die M, for brass

Art. 13035 GnuBo



M | ISO (6g)

Descrizione:
Filiera tonda M, per ottone con imbocco corretto. Materiale HSS.

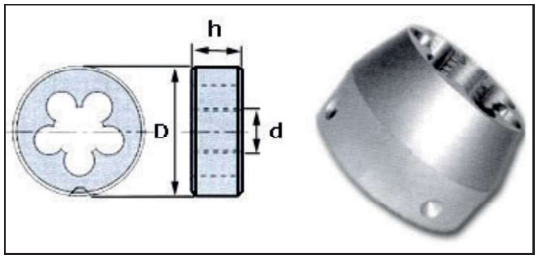
Circular die M, for brass with chamfer. Material HSS.

ART. 13035
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13035030	**M 3**	0,50	20	5
13035040	**M 4**	0,70	20	5
13035050	**M 5**	0,80	20	7
13035060	**M 6**	1,00	20	7
13035080	**M 8**	1,25	25	9
13035100	**M 10**	1,50	30	11

Filiera a campana M, per ottone
Bell form die M, for brass

Art. 13040 GnuBo



M | ISO (6g)

Descrizione:
Filiera a campana M, per ottone con imbocco corretto. Materiale HSS.

Bell form die M, for brass with chamfer. Material HSS.

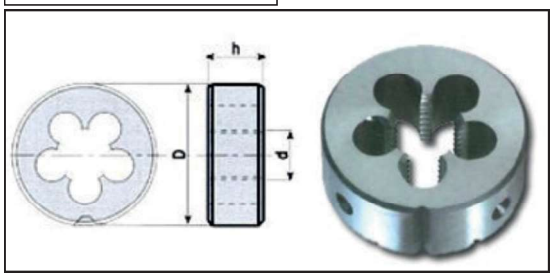
ART. 13040
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13040027	**M 5**	0,80	20	11
13040043	**M 6**	1,00	20	11
13040059	**M 8**	1,25	25	14,5
13040080	**M 10**	1,50	25	14,5

Filiera tonda MF
Circular die MF

Art. 13050 DORMER

Cod. Fornitore: **F110**
Manufacturer code: **F110**



MF | ISO (6g)

Descrizione:
Filiera tonda MF con imbocco corretto, DIN-EN 22 568. Materiale HSS.

Circular die MF with chamfer, DIN-EN 22 568. Material HSS.

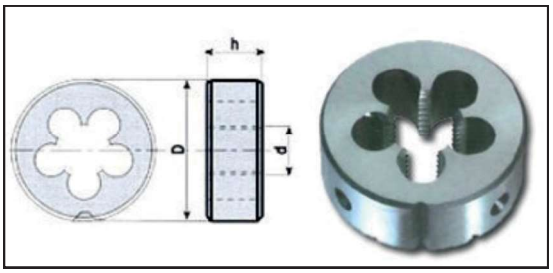
ART. 13050

Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]	cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13050053	**M 4**	0,50	20	5	13050437	**M 16**	1,50	45	14
13050069	**M 5**	0,50	20	5	13050453	**M 18**	1,00	45	14
13050101	**M 6**	0,75	25	7	13050469	**M 18**	1,50	45	14
13050117	**M 7**	0,75	30	9	13050485	**M 20**	1,00	45	14
13050149	**M 8**	0,75	25	9	13050501	**M 20**	1,50	45	14
13050165	**M 8**	1,00	25	9	13050517	**M 22**	1,00	55	16
13050181	**M 9**	1,00	25	9	13050533	**M 22**	1,50	55	16
13050197	**M 10**	0,75	25	11	13050549	**M 24**	1,00	55	16
13050213	**M 10**	1,00	30	11	13050565	**M 24**	1,50	55	16
13050229	**M 10**	1,25	30	11	13050581	**M 24**	2,00	55	16
13050245	**M 11**	1,00	30	11	13050597	**M 25**	1,50	55	16
13050277	**M 12**	1,00	30	10	13050613	**M 26**	1,50	55	16
13050293	**M 12**	1,25	38	10	13050629	**M 27**	2,00	65	18
13050309	**M 12**	1,50	38	10	13050645	**M 28**	1,50	65	18
13050325	**M 13**	1,00	38	10	13050661	**M 30**	1,00	65	18
13050341	**M 14**	1,00	38	10	13050677	**M 30**	1,50	65	18
13050357	**M 14**	1,25	38	10	13050693	**M 30**	2,00	65	18
13050373	**M 14**	1,50	38	10	13050709	**M 32**	1,50	65	18
13050389	**M 15**	1,00	38	10	13050725	**M 33**	1,50	65	18
13050405	**M 15**	1,50	38	10	13050741	**M 35**	1,50	65	18
13050421	**M 16**	1,00	45	14	13050773	**M 40**	1,50	75	20
					13050789	**M 42**	1,50	75	20

Filiera tonda MF
Circular die MF

Art. 13062 GnuBo



MF | ISO (6g)

Descrizione:
Filiera tonda MF, con imbocco corretto. Materiale HSS.

Circular die MF, with chamfer. Material HSS.

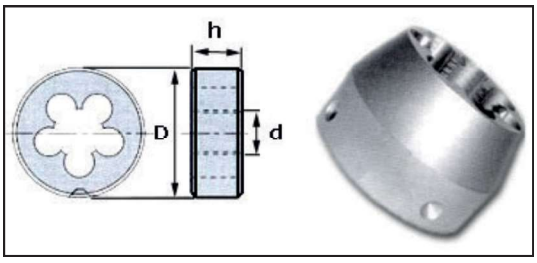
ART. 13062

Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13062042	**M 8**	0,50	25	9
13062069	**M 11**	1,25	38	10
13062101	**M 16**	1,25	38	14
13062109	**M 17**	1,00	38	10
13062117	**M 18**	1,25	38	14
13062133	**M 19**	1,00	38	14
13062163	**M 25**	1,00	50	14
13062175	**M 25**	2,00	50	18
13062187	**M 26**	1,00	50	14
13062199	**M 27**	1,50	50	14
13062211	**M 28**	1,00	50	14

Filiera a campana MF, per ottone
Bell form die MF, for brass

Art. 13088 GnuBo



MF | ISO (6g)

Descrizione:
Filiera a campana MF, per ottone. Materiale HSS.

Bell form die MF, for brass. Material HSS.

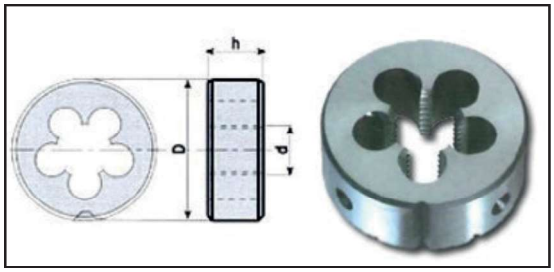
ART. 13088

Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch [mm]	D [mm]	h [mm]
13088101	**M 10**	1,00	25	
13088107	**M 12**	1,00	38	22
13088123	**M 14**	1,00	38	22
13088139	**M 14**	1,50	38	22
13088151	**M 16**	1,00	38	22
13088155	**M 16**	1,50	38	22
13088187	**M 18**	1,00	38	22
13088221	**M 20**	1,50	38	22
13088239	**M 24**	1,50	45	

Filiera tonda BSW
Circular die BSW

Art. 13102 GnuBo



BSW | Non spec.

Descrizione:
Filiera tonda BSW con imbocco corretto, DIN-EN 22 568. Materiale HSS.

Circular die BSW with chamfer, DIN-EN 22 568. Material HSS.

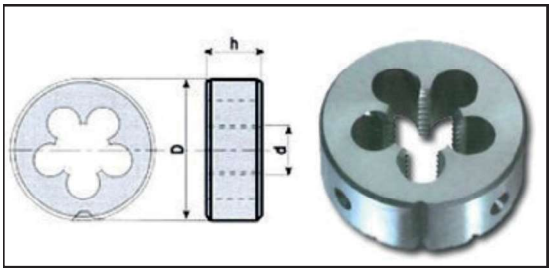
ART. 13102				
Dati tecnici / Technical data				
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13102069	**W 1/8"**	40	20	5
13102101	**W 5/32"**	32	20	5
13102133	**W 3/16"**	24	20	5
13102149	**W 7/32"**	24	20	7
13102165	**W 1/4"**	20	25	9
13102197	**W 5/16"**	18	25	9
13102229	**W 3/8"**	16	30	11
13102261	**W 7/16"**	14	30	11
13102293	**W 1/2"**	12	38	14
13102325	**W 9/16"**	12	38	14
13102357	**W 5/8"**	11	45	18
13102389	**W 3/4"**	10	45	18
13102421	**W 7/8"**	9	50	18
13102453	**W 1"**	8	50	18

Filiere - Filiere GAS

Filiera tonda GAS
Circular die GAS

Art. 13126 DORMER

Cod. Fornitore: **F170**
Manufacturer code: **F170**



G | Non spec.

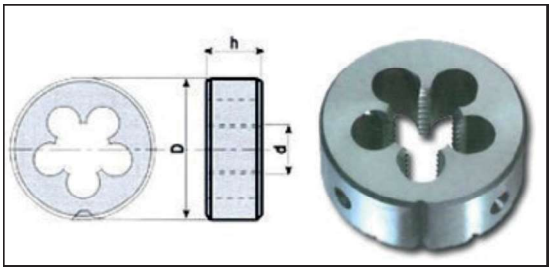
Descrizione:
Filiera tonda GAS con imbocco corretto, DIN-EN 24 231. Materiale HSS.

Circular die GAS with chamfer, DIN-EN 24 231. Material HSS.

ART. 13126				
Dati tecnici / Technical data				
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13126069	**G 1/8"**	28	30	11
13126165	**G 1/4"**	19	38	10
13126229	**G 3/8"**	19	45	14
13126293	**G 1/2"**	14	45	14
13126357	**G 5/8"**	14	55	16
13126389	**G 3/4"**	14	55	16
13126421	**G 7/8"**	14	65	18
13126453	**G 1"**	11	65	18
13126485	**G 1 1/8"**	11	75	20
13126517	**G 1 1/4"**	11	75	20
13126549	**G 1 1/2"**	11	90	22

Filiera tonda GAS sinistrorsa
Circular die GAS, left hand cutting

Art. 13138 GnuBo



G | Non spec.

Descrizione:
Filiera tonda GAS sinistrorsa, con imbocco corretto, DIN-EN 24 231. Materiale HSS.

Circular die GAS, left hand cutting, with chamfer point, DIN-EN 24 231. Material HSS.

ART. 13138				
Dati tecnici / Technical data				
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13138165	**G 1/4"**	19	38	10
13138229	**G 3/8"**	19	38	14
13138293	**G 1/2"**	14	45	14

Mandrini , pinze, ghiere, riduzioni
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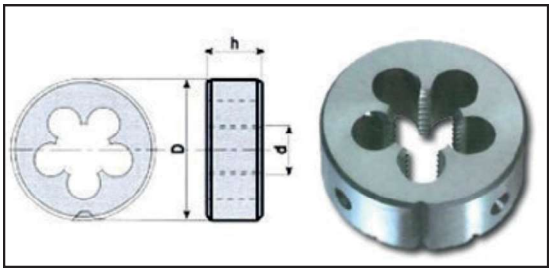
MACCHINE UTENSILI — ACCESSORI

Filiera tonda GAS, per ottone
Circular die GAS, for brass



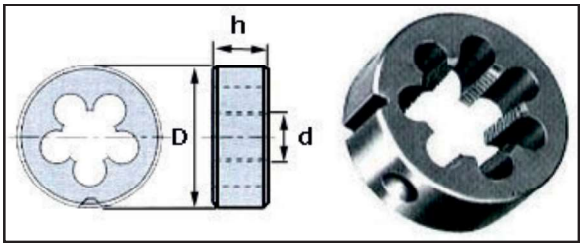
Art. 13164

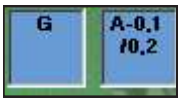
Descrizione:
Filiera tonda GAS per ottone con imbocco corretto, DIN-EN 24 231. Materiale HSS.

Circular die GAS, for brass with chamfer, DIN-EN 24 231. Material HSS.

ART. 13164				
Dati tecnici / Technical data				
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13164069	**G 1/8"**	28	30	11
13164165	**G 1/4"**	19	38	10
13164229	**G 3/8"**	19	45	14
13164293	**G 1/2"**	14	45	14
13164389	**G 3/4"**	14	55	16
13164453	**G 1"**	11	65	18

Filiera tonda GAS, -0,20, per ottone
Circular die GAS, -0,20, for brass





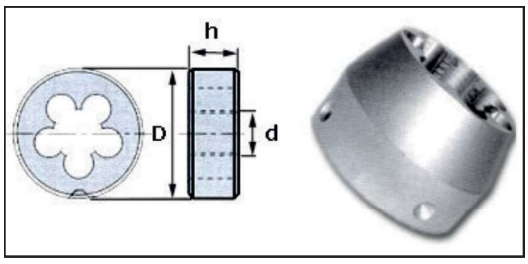
Art. 13176

Descrizione:
Filiera tonda GAS, minorata -0,20, per ottone. Materiale HSS.

Circular die GAS, undersized -0,20, for brass. Material HSS.

ART. 13176					
Dati tecnici / Technical data					
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]	minoraz. undersize ["]
13176069	**G 1/8"**	28	38	10	2/10
13176165	**G 1/4"**	19	38	10	2/10
13176229	**G 3/8"**	19	38	14	2/10
13176293	**G 1/2"**	14	38	14	2/10
13176389	**G 3/4"**	14	50	14	2/10

Filiera a campana GAS, per ottone
Bell form die GAS, for brass



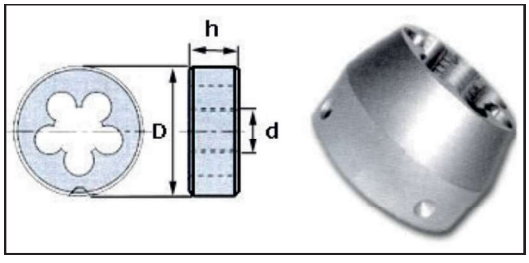
Art. 13188

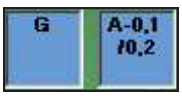
Descrizione:
Filiera a campana GAS, per ottone con imbocco corretto. Materiale HSS.

Bell form die GAS, for brass with chamfer. Material HSS.

ART. 13188				
Dati tecnici / Technical data				
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13188069	**G 1/8"**	28	38	24
13188165	**G 1/4"**	19	38	24
13188229	**G 3/8"**	19	38	24
13188293	**G 1/2"**	14	38	24
13188301	**G 1/2"**	14	50	32
13188389	**G 3/4"**	14	50	32
13188453	**G 1"**	11	50	32
13188521	**G 1 1/4"**	11	75	47

Filiera a campana GAS, -0,20, per ottone
Bell form die GAS, -0,20, for brass





Art. 13202

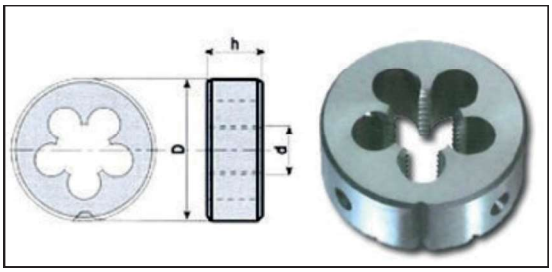
Descrizione:
Filiera a campana GAS, minorata -0,20, per ottone con imbocco corretto. Materiale HSS.

Bell form die GAS, undersized -0,20, for brass with chamfer. Material HSS.

ART. 13202					
Dati tecnici / Technical data					
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]	minoraz. undersize ["]
13202229	**G 3/8"**	19	38	24	2/10
13202293	**G 1/2"**	14	38	24	2/10
13202389	**G 3/4"**	14	50	32	2/10

Filiera tonda R (BSPT)
Circular die R (BSPT)

Art. 13214 GnuBo



R BSPT | Non spec.

Descrizione:
Filiera tonda R (BSPT), DIN-ES 24 230. Materiale HSS.

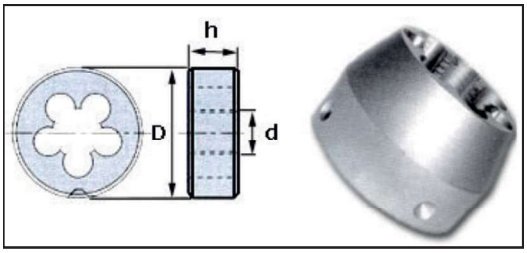
Circular die R (BSPT), DIN-EN 24 230. Material HSS.

ART. 13214
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13214069	BSPT 1/8"	28	30	10
13214165	BSPT 1/4"	19	38	14
13214229	BSPT 3/8"	19	38	15
13214293	BSPT 1/2"	14	45	20
13214149	BSPT 3/4"	14	65	20
13214453	BSPT 1"	11	65	25

Filiera a campana R (BSPT), per ottone
Bell form die R (BSPT), for brass

Art. 13228 GnuBo



R BSPT | Non spec.

Descrizione:
Filiera a campana R (BSPT), per ottone. Materiale HSS.

Bell form die R (BSPT), for brass. Material HSS.

ART. 13228
Dati tecnici / Technical data

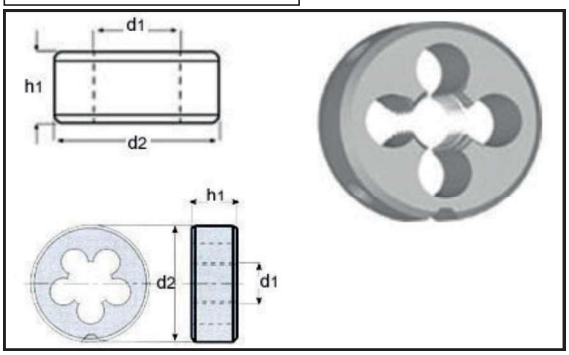
cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13228069	BSPT 1/8"	28	38	24
13228165	BSPT 1/4"	19	38	22
13228293	BSPT 1/2"	14	45	28

Filiere- Filiere NPT

Filiera tonda NPT
Circular die NPT

Cod. Fornitore: **F180**
Manufacturer code: **F180**

Art. 13238 DORMER



NPT | Non spec.

Descrizione:
Filiera tonda NPT con imbocco corretto. Materiale HSS.

Circular die NPT with chamfer. Material HSS.

ART. 13238
Dati tecnici / Technical data

cod. code	filetto d_1 thread d_1		passo pitch TPI	d_2 [mm]	h_1 [mm]
13238069	NPT 1/8"	9,49	27	30	11
13238165	NPT 1/4"	12,49	18	38	14
13238229	NPT 3/8"	15,93	18	45	14
13238293	NPT 1/2"	19,77	14	45	18
13238389	NPT 3/4"	25,12	14	55	22
13238453	NPT 1"	31,46	11 1/2	65	25

Filiere - Filiere per rubinetteria

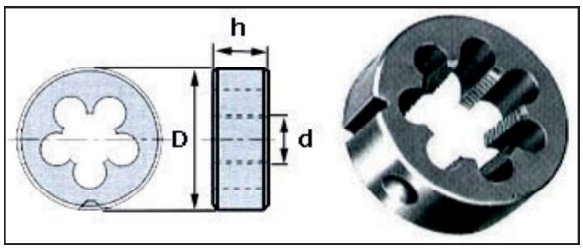
Art. 13278 GnuBo

Filiera tonda F19 per rubinetteria di ottone
Circular die F19 for brass valves

F19 | Non spec.

Descrizione:
Filiera tonda F19 per rubinetteria di ottone. Materiale HSS.

Circular die F19 for brass valves. Material HSS.

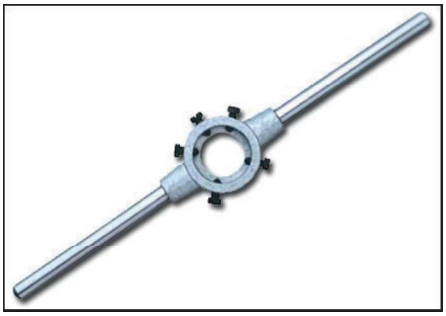


ART. 13278
Dati tecnici / Technical data

cod. code	filetto d thread d	passo pitch	D [mm]	h [mm]
13278031	12	19	38	14
13278047	13	19	38	14
13278057	15	19	38	14
13278063	16	19	38	14
13278079	17	19	38	14
13278085	18	19	38	14
13278091	20	19	38	14
13278095	21	19	50	16
13278111	22	19	50	16
13278127	23	19	50	16
13278132	24	19	50	16
13278143	25	19	50	16
13278159	26	19	50	16
13278175	27	19	50	16
13278191	28	19	50	16
13278207	29	19	50	16
13278223	30	19	50	16
13278239	32	19	50	16
13278255	34	19	65	18
13278271	35	19	65	18
13278287	36	19	65	18

Portafiliere
Die holder

Art. 13350



Descrizione:
Portafiliere per filere DIN-EN 22 568.

Die holder for DIN-EN 22 568 dies.

ART. 13350					
Dati tecnici / Technical data					
cod. code	*misura size*	diam. filiera die's diam. [mm]	alt. filiera die's height [mm]	filetto thread	lungh. totale total length [mm]
13350041	*1*	20	5	**M3 - M4**	180
13350057	*2*	20	7	**M4,5 - M6**	190
13350065	*3*	25	9	**M7 - M9**	210
13350081	*4*	30	11	**M10 - M11**	250
13350097	*5a*	38	10	**MF12 - MF14**	310
13350113	*5*	38	14	**M12 - M14**	310
13350118	*6a*	45	14	**MF16 - MF20**	350
13350134	*6*	45	18	**M16 - M20**	450
13350166	*7a*	55	16	**MF22 - MF24**	490
13350182	*7*	55	22	**M22 - M24**	570
13350198	*8a*	65	18	**MF25 - MF36**	650
13350214	*8*	65	25	**M27 - M36**	650

Serie - Serie di maschi

Set di 21 maschi a mano M
21 M hand taps set

Descrizione:
Set di 7 serie di maschi a mano: n. 3 per ogni filetto M3 - M4 - M5 - M6 - M8 - M10 - M12. Materiale HSS-Co. In cassetta ABS.

7 hand taps series: n. 3 for each thread M3 - M4 - M5 - M6 - M8 - M10 - M12. Material HSS-Co. In ABS case.

Cod.13385210

Maschi e filiere misure fuori catalogo
Oppure a disegno..
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Gnutti Bortolo

INFORMAZIONI TECNICHE

Filettatura metrica ISO a passo grosso M (60°)			
designazione	*diametro esterno* [mm]	*passo (p)* [mm]	*diametro preforo* [mm]
M 1	1,00	0,25	0,75
M 1,1	1,10	0,25	0,85
M 1,2	1,20	0,25	0,95
M 1,4	1,40	0,30	1,10
M 1,5	1,50	0,30	1,20
M 1,6	1,60	0,35	1,25
M 1,7	1,70	0,35	1,30
M 1,8	1,80	0,35	1,45
M 2	2,00	0,40	1,60
M 2,2	2,20	0,45	1,75
M 2,3	2,30	0,40	1,90
M 2,5	2,50	0,45	2,05
M 2,6	2,60	0,45	2,10
M 3	3,00	0,50	2,50
M 3,5	3,50	0,60	2,90
M 4	4,00	0,70	3,30
M 4,5	4,50	0,75	3,70
M 5	5,00	0,80	4,20
M 5,5	5,50	0,90	4,50
M 6	6,00	1,00	5,00
M 7	7,00	1,00	6,00
M 8	8,00	1,25	6,80
M 9	9,00	1,25	7,80
M 10	10,00	1,50	8,50
M 11	11,00	1,50	9,50
M 12	12,00	1,75	10,20
M 14	14,00	2,00	12,00
M 16	16,00	2,00	14,00
M 18	18,00	2,50	15,50
M 20	20,00	2,50	17,50
M 22	22,00	2,50	19,50
M 24	24,00	3,00	21,00
M 27	27,00	3,00	24,00
M 30	30,00	3,50	26,50
M 33	33,00	3,50	29,50
M 36	36,00	4,00	32,00
M 39	39,00	4,00	35,00
M 42	42,00	4,50	37,50
M 45	45,00	4,50	40,50
M 48	48,00	5,00	43,00
M 52	52,00	5,00	47,00
M 56	56,00	5,50	50,50
M 60	60,00	5,50	54,50
M 64	64,00	6,00	58,00
M 68	68,00	6,00	62,00

Filettatura metrica ISO a passo fine MF (60°)			
designazione	*diametro esterno* [mm]	*passo (p)* [mm]	*diametro preforo* [mm]
M 2,5 x 0,35	2,50	0,35	2,15
M 3 x 0,35	3,00	0,35	2,65
M 3,5 x 0,35	3,50	0,35	3,15
M 4 x 0,5	4,00	0,50	3,50
M 4,5 x 0,5	4,50	0,50	4,00
M 5 x 0,5	5,00	0,50	4,50
M 5,5 x 0,5	5,50	0,50	5,00
M 6 x 0,75	6,00	0,75	5,20
M 7 x 0,75	7,00	0,75	6,20
M 8 x 0,75	8,00	0,75	7,20
M 8 x 1	8,00	1,00	7,00
M 9 x 0,75	9,00	0,75	8,20
M 9 x 1	9,00	1,00	8,00
M 10 x 0,75	10,00	0,75	9,20
M 10 x 1	10,00	1,00	9,00
M 10 x 1,25	10,00	1,25	8,80
M 11 x 0,75	11,00	0,75	10,20
M 11 x 1	11,00	1,00	10,00
M 12 x 1	12,00	1,00	11,00
M 12 x 1,25	12,00	1,25	10,80
M 12 x 1,5	12,00	1,50	10,50
M 14 x 1	14,00	1,00	13,00
M 14 x 1,25	14,00	1,25	12,80
M 14 x 1,5	14,00	1,50	12,50
M 15 x 1	15,00	1,00	14,00
M 15 x 1,5	15,00	1,50	13,50
M 16 x 1	16,00	1,00	15,00
M 16 x 1,5	16,00	1,50	14,50
M 17 x 1	17,00	1,00	16,00
M 17 x 1,5	17,00	1,50	15,50
M 18 x 1	18,00	1,00	17,00
M 18 x 1,5	18,00	1,50	16,50
M 18 x 2	18,00	2,00	16,00
M 20 x 1	20,00	1,00	19,00
M 20 x 1,5	20,00	1,50	18,50
M 20 x 2	20,00	2,00	18,00
M 22 x 1	22,00	1,00	21,00
M 22 x 1,5	22,00	1,50	20,50
M 22 x 2	22,00	2,00	20,00
M 24 x 1	24,00	1,00	23,00
M 24 x 1,5	24,00	1,50	22,50
M 24 x 2	24,00	2,00	22,00
M 25 x 1	25,00	1,00	24,00
M 25 x 1,5	25,00	1,50	23,50
M 25 x 2	25,00	2,00	23,00
M 26 x 1,5	26,00	1,50	24,50
M 27 x 1	27,00	1,00	26,00
M 27 x 1,5	27,00	1,50	25,50
M 27 x 2	27,00	2,00	25,00
M 28 x 1	28,00	1,00	27,00
M 28 x 1,5	28,00	1,50	26,50
M 28 x 2	28,00	2,00	26,00
M 30 x 1	30,00	1,00	29,00
M 30 x 1,5	30,00	1,50	28,50
M 30 x 2	30,00	2,00	28,00
M 30 x 3	30,00	3,00	27,00
M 32 x 1,5	32,00	1,50	30,50
M 32 x 2	32,00	2,00	30,00
M 33 x 1,5	33,00	1,50	31,50
M 33 x 2	33,00	2,00	31,00
M 33 x 3	33,00	3,00	30,00

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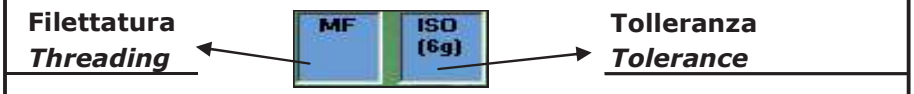
Filettatura Whitworth BSW (55°)						
DIN 11, BS 84						
designazione	*diametro esterno* ["]	[mm]	*diametro nocciolo* [mm]	*passo (p)* [mm]	*n° filetti per pollice (z)* (1" = 25,4 mm)	*diametro preforo* [mm]
1/16 W	1/16	1,588	1,045	0,423	60	1,20
3/32 W	3/32	2,381	1,703	0,529	48	1,80
1/8 W	1/8	3,175	2,362	0,635	40	2,50
5/32 W	5/32	3,969	2,952	0,794	32	3,10
3/16 W	3/16	4,763	3,407	1,058	24	3,60
7/32 W	7/32	5,556	4,201	1,058	24	4,40
1/4 W	1/4	6,350	4,724	1,270	20	5,10
5/16 W	5/16	7,938	6,130	1,411	18	6,50
3/8 W	3/8	9,525	7,491	1,588	16	7,90
7/16 W	7/16	11,112	8,788	1,814	14	9,30
1/2 W	1/2	12,700	9,988	2,117	12	10,50
9/16 W	9/16	14,288	11,577	2,117	12	12,00
5/8 W	5/8	15,875	12,917	2,309	11	13,50
3/4 W	3/4	19,050	15,798	2,540	10	16,50
7/8 W	7/8	22,225	18,611	2,822	9	19,25
1 W	1	25,400	21,334	3,175	8	22,00
1.1/8 W	1.1/8	28,575	23,927	3,629	7	24,75
1.1/4 W	1.1/4	31,750	27,102	3,629	7	27,75
1.3/8 W	1.3/8	34,925	29,503	4,233	6	30,50
1.1/2 W	1.1/2	38,100	32,678	4,233	6	33,50
1.5/8 W	1.5/8	41,275	34,769	5,080	5	35,50
1.3/4 W	1.3/4	44,450	37,944	5,080	5	39,00
1.7/8 W	1.7/8	47,625	40,397	5,644	4,1/2	41,50
2 W	2	50,800	43,572	5,644	4,1/2	44,50

Filettatura GAS cilindrica non a tenuta stagna sul filetto G (55°)					
UNI ISO 228-1					
designazione	*diametro esterno* [mm]	*diametro nocciolo* [mm]	*passo (p)* [mm]	*n° filetti per pollice (z)* (1" = 25,4 mm)	*diametro preforo* [mm]
G 1/16	7,723	6,561	0,907	28	6,80
G 1/8	9,728	8,566	0,907	28	8,80
G 1/4	13,157	11,445	1,337	19	11,80
G 3/8	16,662	14,950	1,337	19	15,25
G 1/2	20,955	18,631	1,814	14	19,00
G 5/8	22,911	20,587	1,814	14	21,00
G 3/4	26,441	24,117	1,814	14	24,50
G 7/8	30,201	27,877	1,814	14	28,25
G 1	33,249	30,291	2,309	11	30,75
G 1.1/8	37,897	34,939	2,309	11	35,50
G 1.1/4	41,910	38,952	2,309	11	39,50
G 1.1/2	47,803	44,845	2,309	11	45,25
G 1.3/4	53,746	50,788	2,309	11	51,00
G 2	59,614	56,656	2,309	11	57,00
G 2.1/4	65,710	62,752	2,309	11	63,10
G 2.1/2	75,184	72,226	2,309	11	72,60
G 2.3/4	81,534	78,576	2,309	11	79,00
G 3	87,884	84,926	2,309	11	85,50
G 3.1/2	100,330	97,372	2,309	11	98,00
G 4	113,030	110,072	2,309	11	110,50
G 4.1/2	125,730	122,772	2,309	11	123,00
G 5	138,430	135,472	2,309	11	136,00
G 5.1/2	151,130	148,172	2,309	11	148,50
G 6	163,830	160,872	2,309	11	161,00

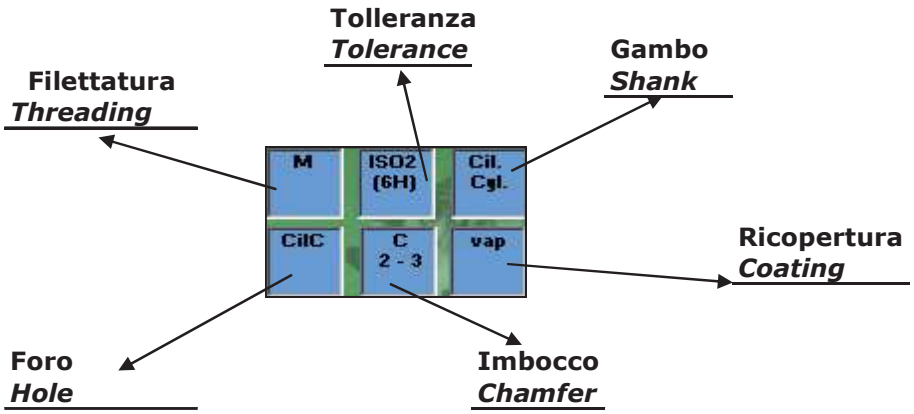
Filettatura GAS conica non a tenuta stagna sul filetto NPT. Conicità 1 : 16. (60°)						
ANSI B1.20.1						
designazione	*diametro esterno (max.)* [mm]	*diametro nocciolo* min.	max.	*passo (p)* [mm]	*n° filetti per pollice (z)* (1" = 25,4 mm)	*diametro preforo* [mm]
NPT 1/16	7,895	6,41	6,50	0,940	27	6,25
NPT 1/8	10,242	8,76	8,85	0,940	27	8,50
NPT 1/4	13,616	11,39	11,48	1,411	18	11,10
NPT 3/8	17,055	14,83	14,92	1,411	18	14,70
NPT 1/2	21,223	18,33	18,41	1,814	14	18,00
NPT 3/4	26,568	23,67	23,76	1,814	14	23,25
NPT 1	33,228	29,72	29,81	2,208	11,1/2	29,25
NPT 1.1/4	41,985	38,48	38,56	2,208	11,1/2	38,00
NPT 1.1/2	48,054	44,55	44,63	2,208	11,1/2	44,25
NPT 2	60,092	56,590	56,670	2,208	11,1/2	56,25

Filettatura GAS conica a tenuta stagna sul filetto BSPT: Rc interna, R esterna (55°). Conicità 1 : 16.						
UNI ISO 7						
designazione	*diametro esterno (max.)* [mm]	*diametro nocciolo* min.	max.	*passo (p)* [mm]	*n° filetti per pollice (z)* (1" = 25,4 mm)	*diametro preforo* [mm]
Rc 1/16	7,723	6,10	6,56	0,907	28	6,30
Rc 1/8	9,728	8,10	8,57	0,907	28	8,30
Rc 1/4	13,157	10,75	11,45	1,337	19	11,50
Rc 3/8	16,662	14,25	14,95	1,337	19	14,75
Rc 1/2	20,955	17,75	18,63	1,814	14	18,25
Rc 3/4	26,441	23,00	24,12	1,814	14	23,50
Rc 1	33,249	29,00	30,29	2,309	11	29,75
Rc 1.1/4	41,910	37,50	38,95	2,309	11	38,50
Rc 1.1/2	47,803	43,50	44,85	2,309	11	44,50
Rc 2	59,614	55,00	56,66	2,309	11	56,50

LEGENDA FILIERE



LEGENDA MASCHI



FORO - HOLE		
CilC	Cilindrico Cieco	Blind Cylindrical
CilP	Cilindrico Passante	Passer-by Cylindrical
CilCP	Cilindrico Cieco e Passante	Passer-by and Blind Cylindrical
CoC	Conico Cieco	Blind Conical
CoP	Conico Passante	Passer-by Conical
CoCP	Conico Cieco e Passante	Passer-by and Blind Conical

TIPI IMBOCCO CHAMFER KIND	n° SPIRE IMBOCCO n° TEETH IN LEAD
A	5 - 6
B	4 - 5
C	2 - 3
D	3,5 - 5
E	1,5 - 2

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PARAMETRI DI TAGLIO PER MASCHI - CUT PARAMETERS FOR TAPS

Materiale / Material			Durezza Hardness	Resistenza Resistance	ISO	Cod. Code 12132 E200	Cod. Code 12134 E250	Cod. Code 12153 EP006H	Cod. Code 12155 EP006H	Cod. Code 12161 E297	Cod. Code 12213 E207	Cod. Code 12215 E258	Cod. Code 12228 +0,1	Cod. Code 12230 +0,2	Cod. Code 12243 EX006H	Cod. Code 12245 EX006H	Cod. Code 12252 EX006TIN	Cod. Code 12255 EX006TIN	Cod. Code 12313 E298	Cod. Code 12315 E298	Cod. Code 12327 E261	Cod. Code 12329 E261	Cod. Code 12331 E238	Cod. Code 12333 E238	Cod. Code 12345 E390
						V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t
1.Acciaio 1.Steel	1.1	Acciaio dolce magnetico *Magnetic soft steel*	< 120	< 400	P 1	12	12	25	25	25					25	25	40	40	25	25					
	1.2	Acciaio da costruzione e da cementazione *Structural steel and case-hardening steel*	< 200	< 700	P 1	10	10	22	22	22	20	20	20	20	22	22	40	40	22	22					
	1.3	Acciaio al carbonio *Carbon steel*	< 250	< 850	P 2	8	8	18	18	18	16	16	16	16	18	18	32	32	18	18					
	1.4	Acciaio legato *Alloyed steel*	< 250	< 850	P 3	6	6	16	16	16	12	12	12	12	16	16	27	27	16	16	30	30			
	1.5	Acciaio legato / Acciaio bonificato e temprato *Alloyed steel / Hardened and tempered steel*	> 250 < 350	> 850 < 1200	P 4	5	5	10	10	10	7	7	7	7	10	10	13	13	10	10	20	20	10	10	
	1.6	Acciaio legato / Acciaio bonificato e temprato *Alloyed steel / Hardened and tempered steel*	> 350	> 1200 < 1620	H 1			5	5												11	11	5	5	
	1.7	Acciaio legato / Temprato *Alloyed steel / Heat treated steel*	49-55 HRC	> 1620	H 3																				
	1.8	Acciaio legato / Temprato *Alloyed steel / Heat treated steel*	55-63 HRC	> 1980	H 4																				
2.Acciaio inossidabile 2.Stainless steel	2.1	Acciaio inossidabile / Automatico *Free machining, Stainless steel*	< 250	< 850	M 1												8	8					8	8	
	2.2	Austenitico *Austenitic*	< 320	< 1100	M 3												7	7					7	7	
	2.3	Ferritico + Austenitico / Martensitico *Feritic + Austenitic / Martensitic*	< 300	< 1000	M 2												5	5					5	5	
	2.4	Con indurimento da precipitazione *Precipitation hardened*	> 320 < 410	> 1100 < 1400	S 2																				
3.Ghisa 3.Cast iron	3.1	Ghisa con grafite lamellare *Lamellar graphite*	< 150	< 500	K 1	14	14	15	15								22	22							30
	3.2	Ghisa con grafite lamellare *Lamellar graphite*	> 150 < 300	> 500 > 1000	K 2	8	8	8	8								18	18							25
	3.3	Ghisa malleabile con grafite sferoidale *Malleable cast iron, nodular graphite*	< 200	< 700	K 3	12	12	15	15								25	25							35
	3.4	Ghisa malleabile con grafite sferoidale *Malleable cast iron, nodular graphite*	> 200 < 300	> 700 < 1000	K 4			8	8								18	18							25
4.Titanio 4.Titanium	4.1	Titanio non legato *Unalloyed titanium*	< 200	< 700	S 1			10	10						10	10	15	15							
	4.2	Leghe di titanio *Alloyed titanium*	< 270	< 900	S 2			5	5						5	5	7	7			10	10			
	4.3	Leghe di titanio *Alloyed titanium*	> 270 < 350	> 900 < 1250	S 3																				
5.Nichel 5.Nickel	5.1	Nichel non legato *Unalloyed nickel*	< 150	< 500	S 1			12	12						12	12	18	18							
	5.2	Leghe di nichel *Alloyed nickel*	< 270	< 900	S 2			5	5						5	5	8	8			10	10			
	5.3	Leghe di nichel *Alloyed nickel*	> 270 < 350	> 900 < 1200	S 3																				
6.Rame 6.Copper	6.1	Rame *Copper*	< 100	< 350	N 3			12	12	12									12	12					
	6.2	β-Ottone / Bronzo *β-Brass / Bronze*	< 200	< 700	N 4	16	16	30	30	30									30	30					30
	6.3	α-Ottone *α-Brass*	< 200	< 700	N 3	12	12	20	20	20									20	20					
	6.4	Bronzo ad alta resistenza *High strength bronze*	< 470	< 1500	N 4																				5
7.Alluminio Magnesio 7.Aluminium Magnesium	7.1	Alluminio, magnesio non legato *Unalloyed aluminium, magnesium*	< 100	< 350	N 1			16	16						16	16									
	7.2	Leghe alluminio Si < 0,5% *Aluminium alloys Si < 0,5%*	< 150	< 500	N 1	20	20	35	35		30	30	30	30	35	35									
	7.3	Leghe alluminio Si > 0,5% < 10% *Aluminium alloys Si > 0,5% < 10%*	< 120	< 400	N 1	12	12	20	20		15	15	15	15	20	20	30	30							
	7.4	Leghe alluminio Si > 10% / Altre leghe Al, Mg *Aluminium alloys Si > 10% / Other alloys Al, Mg*	< 120	< 400	N 2			15	15						15	15	22	22							20
8.Materiali sintetici 8.Synthetic materials	8.1	Termoplastici *Thermoplastics*	-	-				30	30																
	8.2	Termoindurenti *Duroplastics*	-	-		8	8																		15
	8.3	Materiali plastici rinforzati *Reinforced plastic materials*	-	-																					
9.Materiali duri 9.Hard materials	9.1	Cermets *Cermets*	< 550	< 1700																					
10.Grafite 10.Graphite	10.1	Grafite standard *Graphite*	-	< 100																					

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PARAMETRI DI TAGLIO PER MASCHI - CUT PARAMETERS FOR TAPS

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Materiale Material			Durezza Hardness	Resistenza Resistance	ISO	Cod. Code 12350 T0997	Cod. Code 12353 HPER-Z	Cod. Code 12355 E473	Cod. Code 12357 E473	Cod. Code 12361 E335	Cod. Code 12363 E605	Cod. Code 12372 E294	Cod. Code 12460 E268	Cod. Code 12462	Cod. Code 12478 EX10	Cod. Code 12480 E300	Cod. Code 12532	Cod. Code 12538	Cod. Code 12612 E282	Cod. Code 12618 E547	Cod. Code 12626 E382	Cod. Code 12628 EX40	Cod. Code 12860 E650	Cod. Code 12863
			HB	N/mm²		V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t	V_t
1.Acciaio 1.Steel	1.1	Acciaio dolce magnetico *Magnetic soft steel*	< 120	< 400	P 1			25	25			55	12		25	25			12	7		25	25	
	1.2	Acciaio da costruzione e da cementazione *Structural steel and case-hardening steel*	< 200	< 700	P 1			22	22		18	50	10		22	22			10	6		22	22	
	1.3	Acciaio al carbonio *Carbon steel*	< 250	< 850	P 2			18	18		14	45	8		18	18			8	5		18	18	
	1.4	Acciaio legato *Alloyed steel*	< 250	< 850	P 3						10	40	6		16	16			6	4		16	15	
	1.5	Acciaio legato / Acciaio bonificato e temprato *Alloyed steel / Hardened and tempered steel*	> 250 < 350	> 850 < 1200	P 4					17	5	20	5		10	10			5	3	10	10		
	1.6	Acciaio legato / Acciaio bonificato e temprato *Alloyed steel / Hardened and tempered steel*	> 350	> 1200 < 1620	H 1					12											5			
	1.7	Acciaio legato / Temprato *Alloyed steel / Heat treated steel*	49-55 HRC	> 1620	H 3					7														
	1.8	Acciaio legato / Temprato *Alloyed steel / Heat treated steel*	55-63 HRC	> 1980	H 4																			
2.Acciaio inossidabile 2.Stainless steel	2.1	Acciaio inossidabile / Automatico *Free machining, Stainless steel*	< 250	< 850	M 1						6	18									8			
	2.2	Austenitico *Austenitic*	< 320	< 1100	M 3						4	15									7			
	2.3	Ferritico + Austenitico / Martensitico *Feritic + Austenitic / Martensitic*	< 300	< 1000	M 2						3	10									5			
	2.4	Con indurimento da precipitazione *Precipitation hardened*	> 320 < 410	> 1100 < 1400	S 2																			
3.Ghisa 3.Cast iron	3.1	Ghisa con grafite lamellare *Lamellar graphite*	< 150	< 500	K 1								14						14	12				
	3.2	Ghisa con grafite lamellare *Lamellar graphite*	> 150 < 300	> 500 > 1000	K 2								8						8	7			8	
	3.3	Ghisa malleabile con grafite sferoidale *Malleable cast iron, nodular graphite*	< 200	< 700	K 3								12						12	10				
	3.4	Ghisa malleabile con grafite sferoidale *Malleable cast iron, nodular graphite*	> 200 < 300	> 700 < 1000	K 4															5				
4.Titanio 4.Titanium	4.1	Titanio non legato *Unalloyed titanium*	< 200	< 700	S 1					13		35			10							10		
	4.2	Leghe di titanio *Alloyed titanium*	< 270	< 900	S 2										5							5		
	4.3	Leghe di titanio *Alloyed titanium*	> 270 < 350	> 900 < 1250	S 3					8														
5.Nichel 5.Nickel	5.1	Nichel non legato *Unalloyed nickel*	< 150	< 500	S 1							20			12							12		
	5.2	Leghe di nichel *Alloyed nickel*	< 270	< 900	S 2					5	4	8			5							5		
	5.3	Leghe di nichel *Alloyed nickel*	> 270 < 350	> 900 < 1200	S 3					3														
6.Rame 6.Copper	6.1	Rame *Copper*	< 100	< 350	N 3			12	12			25				12				4				
	6.2	β-Ottone / Bronzo *β-Brass / Bronze*	< 200	< 700	N 4			30	30				16			30			16	10			30	
	6.3	α-Ottone *α-Brass*	< 200	< 700	N 3			20	20			40	12			20			12	7			20	
	6.4	Bronzo ad alta resistenza *High strength bronze*	< 470	< 1500	N 4															2				
7.Alluminio Magnesio 7.Aluminium Magnesium	7.1	Alluminio, magnesio non legato *Unalloyed aluminium, magnesium*	< 100	< 350	N 1			16	16		10	55			16							16	18	
	7.2	Leghe aluminio Si < 0,5% *Aluminium alloys Si < 0,5%*	< 150	< 500	N 1			35	35		25	55	20		35				20	12		35	35	
	7.3	Leghe aluminio Si > 0,5% < 10% *Aluminium alloys Si > 0,5% < 10%*	< 120	< 400	N 1			20	20		13	40	12		20				12	7		20		
	7.4	Leghe aluminio Si > 10% / Altre leghe Al, Mg *Aluminium alloys Si > 10% / Other alloys Al, Mg*	< 120	< 400	N 2			15	15		10	25			15					5		15		
8.Materiali sintetici 8.Synthetic materials	8.1	Termoplastici *Thermoplastics*	-	-				25	25													30	30	
	8.2	Termoindurenti *Duroplastics*	-	-									8						8	5				
	8.3	Materiali plastici rinforzati *Reinforced plastic materials*	-	-																3				
9.Materiali duri 9.Hard materials	9.1	Cermets *Cermets*	< 550	< 1700																				
10.Grafite 10.Graphite	10.1	Grafite standard *Graphite*	-	< 100																				

69

PARAMETRI DI TAGLIO PER MASCHI - CUT PARAMETERS FOR TAPS

diametro nominale	giri per minuto [1/min]												
M 3	425	530	635	850	1060	1270	1590	2120	2330	2650	2965	3180	3390
M 4	319	398	480	635	795	955	1190	1590	1750	1990	2230	2390	2550
M 5	255	318	382	510	635	765	955	1270	1400	1590	1785	1910	2040
M 6	212	265	318	425	530	635	795	1060	1170	1325	1485	1590	1700
M 8	159	198	238	318	398	478	598	795	875	995	1115	1195	1275
M 10	127	159	191	255	318	382	478	636	700	795	892	955	1020
M 12	106	133	159	212	265	318	398	531	584	664	744	795	850
M 14	91	114	136	182	228	273	342	455	500	568	636	682	728
M 16	80	100	119	159	199	239	299	398	438	497	557	597	637
M 18	71	88	106	142	177	212	265	354	388	442	495	530	565
M 20	64	80	95	127	159	192	239	318	350	398	446	478	510
M 22	58	72	87	116	145	174	217	290	318	362	405	435	463
M 24	53	66	80	106	133	159	200	266	292	332	372	398	425
M 27	47	59	71	95	118	142	177	236	260	295	330	355	378
M 30	42	53	64	85	106	127	159	212	234	265	297	318	340
M 33	39	48	58	77	96	116	145	193	212	242	270	290	309
M 36	35	44	53	71	88	106	133	177	195	221	248	265	283
M 39	33	41	49	65	82	98	122	163	180	205	228	245	262
M 42	30	38	45	61	76	91	114	152	167	190	212	228	243
	4	5	6	8	10	12	15	20	22	25	28	30	32
	Velocità di taglio v [m/min]												

TOT. FEED [mm/min] = PITCH [mm/rev.] X TOOL REVOLUTIONS [rpm]

TOOL REVOLUTIONS [rpm] = $\frac{V_t \times 1000}{\text{TAP'S DIAMETER [mm]} \times 3{,}14}$

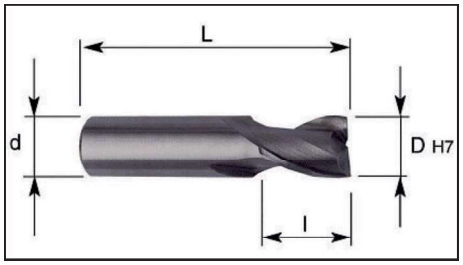
AVANZAMENTO TOT. [mm/min] = PASSO [mm/giro] X N° DI GIRI [giri/min]

N° DI GIRI [giri/min] = $\frac{V_t \times 1000}{\text{DIAMETRO MASCHIO [mm]} \times 3{,}14}$

Shark	Applicazione	Application
	Acciaio	Steel
	Ottone/Rame	Brass/ Copper
	Acciaio Legato	Alloy steels
	Acciaio Inossidabile	Stainless Steel
	Ghisa < 230HB	Cast Irons < 230HB
	Ghisa > 230HB	Cast Irons > 230HB
	Metalli non ferrosi	Non Ferrous Materials

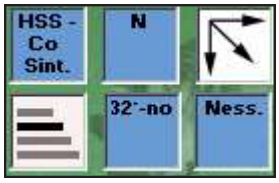
Fresa a 2 taglienti per cave, HSS-Co sinterizzato
HSS-Co sintered slot end mill with 2 cutting edges

Art. 13510 GnuBo



Descrizione:
Fresa a 2 taglienti per cave in tolleranza H7, HSS-Co sinterizzato. UNI 8254, DIN 327B, ISO 1641/I.

HSS-Co sintered slot end mill with 2 cutting edges in tolerance H7. UNI 8254, DIN 327B, ISO 1641/I.



ART. 13510

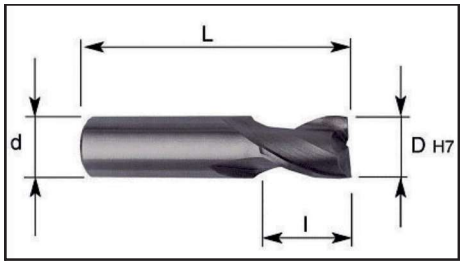
** : su richiesta/under request*

Dati tecnici / Technical data

Cod.	DH7	I	L	dh6	Z	Cod.	DH7	I	L	dh6	Z
13510010	**1**	3	47	6	2	13510150	**15**	19	79	16	2
13510015	**1,5**	3	47	6	2	13510160	**16**	19	79	16	2
13510020	**2**	4	48	6	2	13510170	**17**	19	79	16	2
13510025	**2,5**	5	49	6	2	13510180	**18**	19	79	16	2
13510030	**3**	5	49	6	2	*	**18**	19	85	20	2
13510035	**3,5**	6	50	6	2	13510190	**19**	22	82	16	2
13510040	**4**	7	51	6	2	*	**19**	22	88	20	2
13510045	**4,5**	7	51	6	2	13510200	**20**	22	82	16	2
13510050	**5**	8	52	6	2	13510201	**20**	22	88	20	2
13510055	**5,5**	8	52	6	2	*	**21**	22	88	20	2
13510060	**6**	8	52	6	2	13510220	**22**	22	88	20	2
13510065	**6,5**	10	60	10	2	*	**22**	22	98	25	2
13510070	**7**	10	60	10	2	*	**23**	22	88	20	2
13510075	**7,5**	10	60	10	2	13510240	**24**	26	102	25	2
13510080	**8**	11	61	10	2	13510250	**25**	26	102	25	2
*	**8,5**	11	61	10	2	13510260	**26**	26	102	25	2
13510090	**9**	11	61	10	2	13510280	**28**	26	102	25	2
*	**9,5**	13	63	10	2	13510300	**30**	26	102	25	2
13510100	**10**	13	63	10	2	13510320	**32**	32	112	32	2
*	**11**	13	70	12	2	*	**34**	32	112	32	2
13510110	**11**	13	70	12	2	*	**35**	32	112	32	2
13510120	**12**	16	73	12	2	*	**36**	32	112	32	2
13510130	**13**	16	73	12	2	*	**38**	38	118	32	2
13510140	**14**	16	73	12	2						

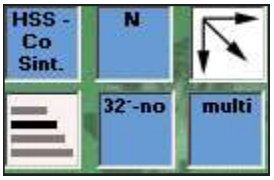
Fresa a 2 taglienti per cave, HSS-Co sinterizzato, rivestita
HSS-Co sintered slot end mill with 2 cutting edges, coated

Art. 13513 GnuBo



Descrizione:
Fresa a 2 taglienti per cave in tolleranza H7, HSS-Co sinterizzato, con rivestimento multistrato. UNI 8254, DIN 327B, ISO 1641/I.

HSS-Co sintered slot end mill with 2 cutting edges in tolerance H7, multi-coated. UNI 8254, DIN 327B, ISO 1641/I.



ART. 13513

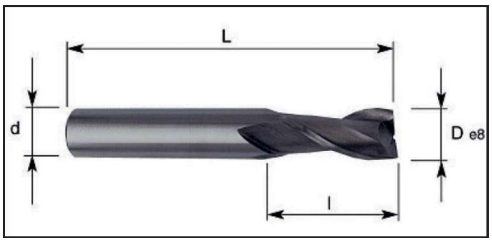
** : su richiesta/under request*

Dati tecnici / Technical data

Cod.	D H7	I	L	d h6	Z	Cod.	D H7	I	L	d h6	Z
13513010	**1**	3	47	6	2	*	**15**	19	79	16	2
13513015	**1,5**	3	47	6	2	13513160	**16**	19	79	16	2
13513020	**2**	4	48	6	2	*	**17**	19	79	16	2
13513025	**2,5**	5	49	6	2	13513180	**18**	19	79	16	2
13513030	**3**	5	49	6	2	*	**18**	19	85	20	2
*	**3,5**	6	50	6	2	*	**19**	22	82	16	2
13513040	**4**	7	51	6	2	*	**19**	22	88	20	2
*	**4,5**	7	51	6	2	*	**20**	22	82	16	2
13513050	**5**	8	52	6	2	13513201	**20**	22	88	20	2
*	**5,5**	8	52	6	2	*	**21**	22	88	20	2
13513060	**6**	8	52	6	2	*	**22**	22	88	20	2
*	**6,5**	10	60	10	2	*	**22**	22	98	25	2
*	**7**	10	60	10	2	*	**23**	22	88	20	2
*	**7,5**	10	60	10	2	*	**24**	26	102	25	2
13513080	**8**	11	61	10	2	*	**25**	26	102	25	2
*	**8,5**	11	61	10	2	*	**26**	26	102	25	2
*	**9**	11	61	10	2	*	**28**	26	102	25	2
*	**9,5**	13	63	10	2	*	**30**	26	102	25	2
13513100	**10**	13	63	10	2	*	**32**	32	112	32	2
*	**10,5**	13	70	12	2	*	**34**	32	112	32	2
*	**11**	13	70	12	2	*	**35**	32	112	32	2
13513120	**12**	16	73	12	2	*	**36**	32	112	32	2
*	**13**	16	73	12	2	*	**38**	38	118	32	2
13513140	**14**	16	73	12	2						

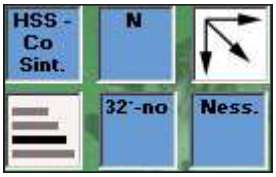
Fresa a 2 taglienti per cave, HSS-Co sinterizzato
HSS-Co sintered slot end mill with 2 cutting edges

Art. 13530 GnuBo



Descrizione:
Fresa a 2 taglienti per cave in tolleranza e8, HSS-Co sinterizzato.

HSS-Co sintered slot end mill with 2 cutting edges in tolerance e8.



ART. 13530

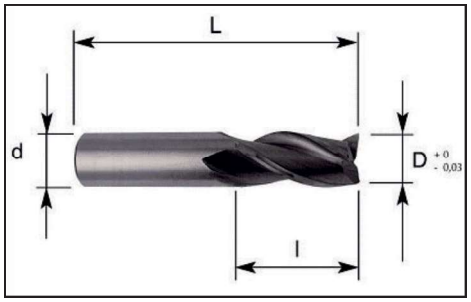
* : su richiesta/under request

Dati tecnici / Technical data

Cod.	D e8	I	L	d h6	Z	Cod.	D e8	I	L	d h6	Z
13530030	**3**	9	60	6	2	*	**18**	35	114	16	2
*	**3,5**	13	67	6	2	13530180	**18**	35	129	20	2
13530040	**4**	13	67	6	2	*	**19**	38	117	16	2
*	**4,5**	13	70	6	2	*	**19**	38	132	20	2
13530050	**5**	16	70	6	2	*	**20**	38	117	16	2
*	**5,5**	16	76	6	2	13530201	**20**	38	132	20	2
13530060	**6**	16	76	6	2	*	**21**	38	132	20	2
*	**6,5**	16	76	10	2	*	**22**	41	135	20	2
13530070	**7**	19	79	10	2	*	**22**	41	141	25	2
*	**7,5**	19	79	10	2	*	**23**	41	135	20	2
13530080	**8**	19	79	10	2	*	**24**	41	152	25	2
*	**8,5**	22	83	10	2	*	**25**	44	159	25	2
13530090	**9**	22	83	10	2	*	**26**	44	159	25	2
*	**9,5**	22	83	10	2	*	**28**	44	159	25	2
13530100	**10**	22	83	10	2	*	**30**	50	159	25	2
*	**10,5**	25	95	12	2	*	**32**	52	165	32	2
13530110	**11**	25	95	12	2	*	**34**	54	167	32	2
13530120	**12**	28	98	12	2	*	**35**	54	167	32	2
*	**13**	28	98	12	2	*	**36**	54	167	32	2
13530140	**14**	32	102	12	2	*	**38**	56	169	32	2
13530150	**15**	32	108	16	2	*	**40**	56	174	32	2
13530160	**16**	32	108	16	2	*	**45**	60	180	32	2
*	**17**	35	114	16	2	*	**50**	65	185	32	2

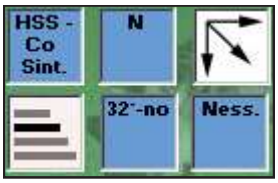
Fresa a 3 taglienti, HSS-Co sinterizzato
HSS-Co sintered cutter with 3 cutting edges

Art. 13540 GnuBo



Descrizione:
Fresa a 3 taglienti, HSS-Co sinterizzato.
UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered cutter with 3 cutting edges.
UNI 8244, DIN 844A, ISO 1641/I.



ART. 13540

* : su richiesta/under request

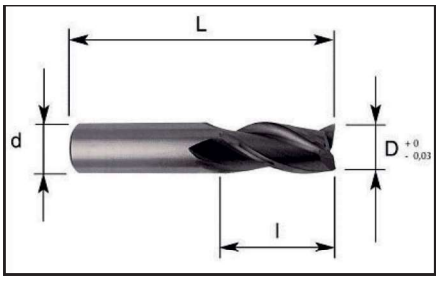
Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z	Cod.	D	I	L	dh6	Z
13540020	**2**	7	51	6	3	*	**18**	32	98	20	3
13540025	**3**	8	52	6	3	*	**19**	38	98	16	3
13540030	**3**	8	52	6	3	*	**19**	38	104	20	3
13540035	**4**	10	54	6	3	13540200	**20**	38	98	16	3
13540040	**4**	11	55	6	3	*	**20**	38	104	20	3
*	**5**	11	55	6	3	*	**22**	38	104	20	3
13540050	**5**	13	57	6	3	*	**22**	38	114	25	3
*	**6**	13	57	6	3	*	**24**	45	121	25	3
13540060	**6**	13	57	6	3	*	**25**	45	121	25	3
*	**7**	16	66	10	3	*	**26**	45	121	25	3
13540070	**7**	16	66	10	3	*	**28**	45	121	25	3
13540080	**8**	19	69	10	3	*	**30**	45	121	25	3
13540090	**9**	19	69	10	3	*	**32**	53	133	32	3
13540100	**10**	22	72	10	3	*	**34**	53	133	32	3
*	**11**	22	79	12	3	*	**35**	53	133	32	3
13540120	**12**	26	83	12	3	*	**36**	53	133	32	3
13540130	**13**	26	83	12	3	*	**38**	63	143	32	3
13540140	**14**	26	83	12	3	*	**40**	63	143	32	3
*	**15**	32	92	16	3	*	**45**	63	143	32	3
13540160	**16**	32	92	16	3	*	**48**	75	155	32	3
*	**17**	32	92	16	3	*	**50**	75	155	32	3
13540180	**18**	32	92	16	3						

Stanco di perdere tempo
per rivolgerti a tanti fornitori?
Con Gnutti Bortolo
trovi un unico interlocutore professionale
per 20000 articoli di consumo
per l'industria!!

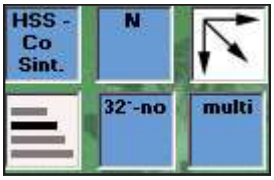
Fresa a 3 taglienti, HSS-Co sinterizzato, rivestita
HSS-Co sintered cutter with 3 cutting edges, coated

Art. 13544 GnuBo



Descrizione:
Fresa a 3 taglienti, HSS-Co sinterizzato, con rivestimento multistrato. UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered cutter with 3 cutting edges, multi-coated. UNI 8244, DIN 844A, ISO 1641/I.



ART. 13544

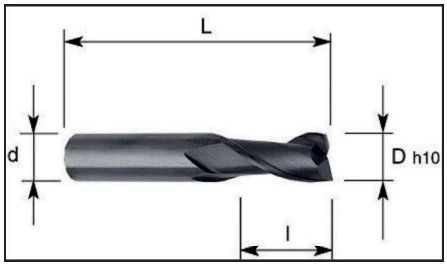
* : su richiesta/under request

Dati tecnici / Technical data

Cod.	D	l	L	dh6	Z	Cod.	D	l	L	dh6	Z
*	2	7	51	6	3	*	18	32	98	20	3
*	2,5	8	52	6	3	*	19	38	98	16	3
*	3	8	52	6	3	*	19	38	104	20	3
*	3,5	10	54	6	3	*	20	38	98	16	3
*	4	11	55	6	3	*	20	38	104	20	3
*	4,5	11	55	6	3	*	22	38	104	20	3
13544050	5	13	57	6	3	*	22	38	114	25	3
*	5,5	13	57	6	3	*	24	45	121	25	3
13544060	6	13	57	6	3	*	25	45	121	25	3
*	6,5	16	66	10	3	*	26	45	121	25	3
*	7	16	66	10	3	*	28	45	121	25	3
13544080	8	19	69	10	3	*	30	45	121	25	3
*	9	19	69	10	3	*	32	53	133	32	3
13544100	10	22	72	10	3	*	34	53	133	32	3
*	11	22	79	12	3	*	35	53	133	32	3
*	12	26	83	12	3	*	36	53	133	32	3
*	13	26	83	12	3	*	38	63	143	32	3
*	14	26	83	12	3	*	40	63	143	32	3
*	15	32	92	16	3	*	45	63	143	32	3
*	16	32	92	16	3	*	48	75	155	32	3
*	17	32	92	16	3	*	50	75	155	32	3
*	18	32	92	16	3						

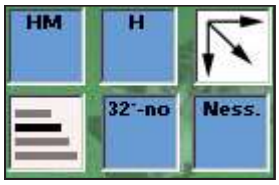
Fresa a 2 taglienti, HM
HM cutter with 2 cutting edges

Art. 13590 GnuBo



Descrizione:
Fresa a 2 taglienti, HM. DIN 6528.

HM cutter with 2 cutting edges. DIN 6528.



ART. 13590

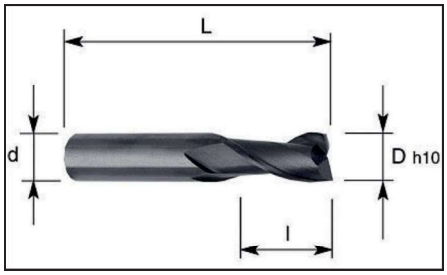
* : su richiesta/under request

Dati tecnici / Technical data

Cod.	Dh10	l	L	dh6	Z	Cod.	Dh10	l	L	dh6	Z
13590020	2	7	40	2	2	13590090	9	18	67	9	2
13590025	2,5	8	40	2,5	2	*	9,5	20	72	9,5	2
13590030	3	8	40	3	2	13590100	10	20	72	10	2
13590035	3,5	10	50	3,5	2	*	10,5	20	72	10,5	2
13590040	4	10	50	4	2	13590110	11	20	83	11	2
13590045	4,5	12	50	4,5	2	13590120	12	22	83	12	2
13590050	5	12	50	5	2	*	13	25	83	13	2
*	5,5	14	57	5,5	2	13590140	14	25	83	14	2
13590060	6	14	57	6	2	*	15	32	92	15	2
*	6,5	14	60	6,5	2	13590160	16	32	92	16	2
13590070	7	14	60	7	2	*	17	32	92	17	2
*	7,5	16	63	7,5	2	13590180	18	32	92	18	2
13590080	8	16	63	8	2	*	19	38	104	19	2
*	8,5	18	67	8,5	2	13590200	20	38	104	20	2

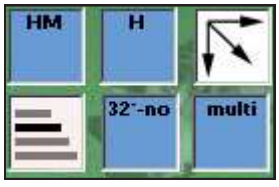
Fresa a 2 taglienti, HM, rivestita
HM cutter with 2 cutting edges, coated

Art. 13594 GnuBo



Descrizione:
Fresa a 2 taglienti, HM, con rivestimento multistrato. DIN 6528.

HM cutter with 2 cutting edges, multi-coated.DIN 6528.



ART. 13594

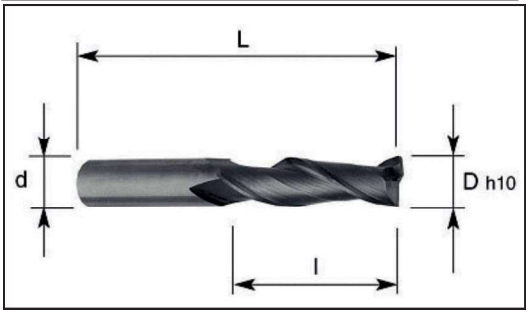
* : su richiesta/under request

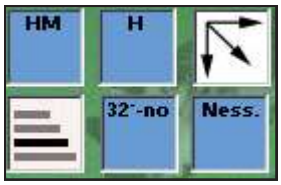
Dati tecnici / Technical data

Cod.	Dh10	l	L	dh6	Z	Cod.	Dh10	l	L	dh6	Z
13594020	2	7	40	2	2	13594090	9	18	67	9	2
*	2,5	8	40	2,5	2	*	9,5	20	72	9,5	2
13594030	3	8	40	3	2	13594100	10	20	72	10	2
13594035	3,5	10	50	3,5	2	*	10,5	20	72	10,5	2
13594040	4	10	50	4	2	13594110	11	20	83	11	2
13594045	4,5	12	50	4,5	2	13594120	12	22	83	12	2
13594050	5	12	50	5	2	*	13	25	83	13	2
*	5,5	14	57	5,5	2	*	14	25	83	14	2
13594060	6	14	57	6	2	*	15	32	92	15	2
*	6,5	14	60	6,5	2	*	16	32	92	16	2
13594070	7	14	60	7	2	*	17	32	92	17	2
*	7,5	16	63	7,5	2	*	18	32	92	18	2
13594080	8	16	63	8	2	*	19	38	104	19	2
*	8,5	18	67	8,5	2	*	20	38	104	20	2

Fresa a 2 taglienti, HM
HM cutter with 2 cutting edges

Art. 13600 GnuBo





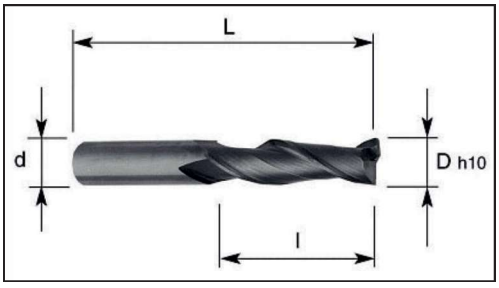
ART. 13600					
* : su richiesta/under request					
Dati tecnici / technical data					
Cod.	Dh10	I	L	dh6	Z
13600030	**3**	20	55	3	2
13600040	**4**	20	60	4	2
13600050	**5**	20	60	5	2
13600060	**6**	24	65	6	2
*	**7**	30	75	7	2
13600080	**8**	32	80	8	2
*	**9**	32	80	9	2
13600100	**10**	32	80	10	2
*	**11**	50	100	11	2
13600120	**12**	50	100	12	2
*	**13**	55	115	13	2
13600140	**14**	55	115	14	2
*	**15**	60	120	15	2
*	**16**	60	120	16	2
*	**17**	60	120	17	2
13600180	**18**	60	120	18	2
*	**19**	60	130	19	2
*	**20**	60	130	20	2

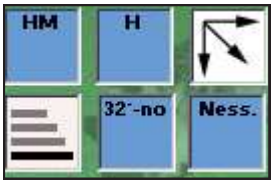
Descrizione:
Fresa a 2 taglienti, HM.

HM cutter with 2 cutting edges.

Fresa a 2 taglienti, HM
HM cutter with 2 cutting edges

Art. 13610 GnuBo





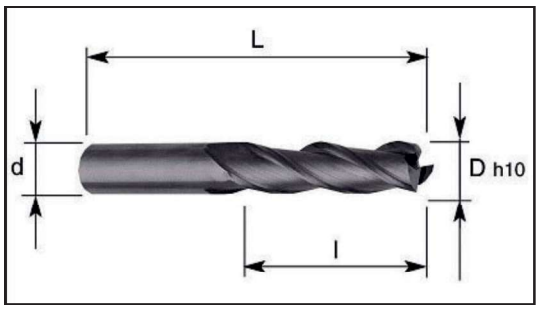
ART. 13610					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	Dh10	I	L	dh6	Z
*	**3**	25	70	3	2
13610040	**4**	32	72	4	2
*	**5**	32	80	5	2
13610060	**6**	40	02	6	2
*	**7**	42	100	7	2
13610080	**8**	42	100	8	2
*	**9**	45	100	9	2
13610100	**10**	45	100	10	2
*	**11**	70	130	11	2
*	**12**	75	160	12	2
*	**13**	75	160	13	2
*	**14**	75	160	14	2
*	**15**	75	160	15	2
*	**16**	75	160	16	2
*	**17**	75	160	17	2
*	**18**	75	160	18	2
*	**19**	75	160	19	2
*	**20**	75	160	20	2

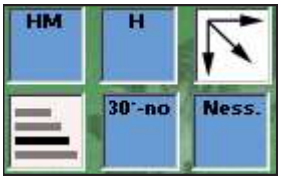
Descrizione:
Fresa a 2 taglienti, HM.

HM cutter with 2 cutting edges.

Fresa a 3 taglienti, HM
HM cutter with 3 cutting edges

Art. 13620 GnuBo





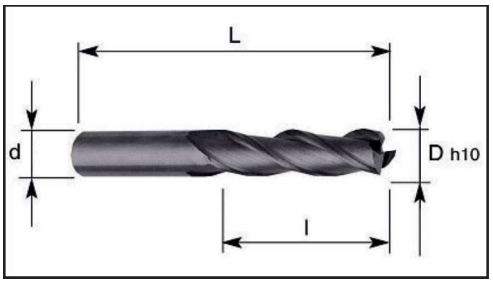
ART. 13620					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	Dh10	I	L	dh6	Z
13620030	**3**	20	55	3	3
13620040	**4**	20	60	4	3
13620050	**5**	20	60	5	3
13620060	**6**	24	65	6	3
*	**7**	30	75	7	3
13620080	**8**	32	80	8	3
*	**9**	32	80	9	3
13620100	**10**	32	80	10	3
*	**11**	50	100	11	3
13620120	**12**	50	100	12	3
*	**13**	55	115	13	3
*	**14**	55	115	14	3
*	**15**	60	120	15	3
*	**16**	60	120	16	3
*	**17**	60	120	17	3
*	**18**	60	120	18	3
*	**19**	60	130	19	3
*	**20**	60	130	20	3

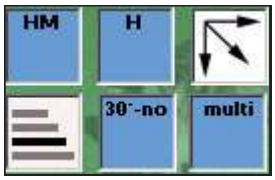
Descrizione:
Fresa a 3 taglienti, HM.

HM cutter with 3 cutting edges.

Fresa a 3 taglienti, HM, rivestita
HM cutter with 3 cutting edges, coated

Art. 13623 GnuBo





ART. 13623					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	Dh10	l	L	dh6	Z
13623030	**3**	20	55	3	3
13623040	**4**	20	60	4	3
13623050	**5**	20	60	5	3
13623060	**6**	24	65	6	3
*	**7**	30	75	7	3
13623080	**8**	32	80	8	3
*	**9**	32	80	9	3
13623100	**10**	32	80	10	3
*	**11**	50	100	11	3
13623120	**12**	50	100	12	3
*	**13**	55	115	13	3
*	**14**	55	115	14	3
*	**15**	60	120	15	3
*	**16**	60	120	16	3
*	**17**	60	120	17	3
*	**18**	60	120	18	3
*	**19**	60	130	19	3
*	**20**	60	130	20	3

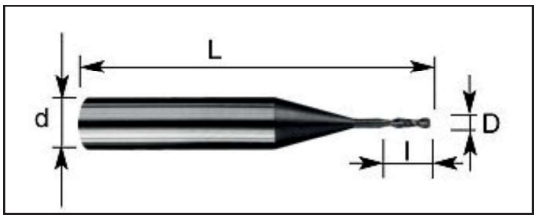
Descrizione:
Fresa a 3 taglienti, HM, con rivestimento multistrato.

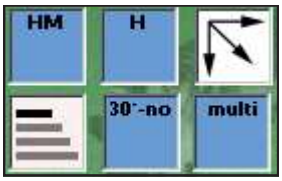
HM cutter with 3 cutting edges, multi-coated.

Frese - Microfrese

Microfresa a 2 taglienti, HM, rivestita
HM microcutter with 2 cutting edges, coated

Art. 13632 GnuBo





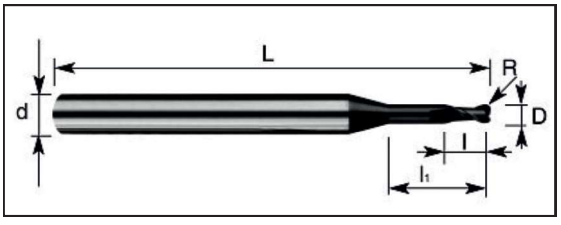
ART. 13632					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	Dh10	l	L	dh6	Z
*	**0,4**	0,8	40	3	2
13632050	**0,5**	1	40	3	2
13632060	**0,6**	1,2	40	3	2
*	**0,7**	1,4	40	3	2
13632080	**0,8**	1,6	40	3	2
*	**0,9**	2	40	3	2
13632100	**1**	2,5	40	4	2
*	**1,1**	2,5	40	4	2
13632120	**1,2**	4	40	4	2
*	**1,3**	4	40	4	2
*	**1,4**	4	40	4	2
13632150	**1,5**	4	40	4	2

Descrizione:
Microfresa a 2 taglienti, HM, con rivestimento multistrato.

HM microcutter with 2 cutting edges, multi-coated.

Microfresa a testa toroidale, HM, rivestita
HM microcutter with torus nose, coated

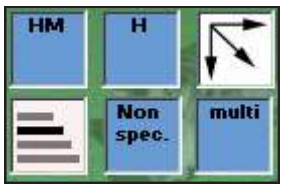
Art. 13636 GnuBo



ART. 13636							
Dati tecnici / Technical data							
Cod. Code	D h10 [mm]	R [mm]	l [mm]	l_1 [mm]	L [mm]	d h6 [mm]	Z [mm]
13636054	**0,5**	0,1	1	4	50	4	2
13636056	**0,5**	0,1	1	6	50	4	2
13636064	**0,6**	0,1	1	4	50	4	2
13636066	**0,6**	0,1	1	6	50	4	2
13636084	**0,8**	0,1	1	4	50	4	2
13636086	**0,8**	0,1	1	6	50	4	2
13636100	**1**	0,1	1	5	58	6	2
13636104	**1**	0,1	1	10	58	6	2
13636150	**1,5**	0,15	1,5	8	58	6	2
13636154	**1,5**	0,15	1,5	12	58	6	2
13636200	**2**	0,2	2	10	58	6	2
13636202	**2**	0,2	2	12	58	6	2
13636204	**2**	0,2	2	16	65	6	2
13636206	**2**	0,2	2	20	65	6	2
13636250	**2,5**	0,25	2	13	58	6	2
13636300	**3**	0,3	3	8	58	6	2
13636302	**3**	0,3	3	12	58	6	2
13636304	**3**	0,3	3	16	65	6	2
13636306	**3**	0,3	4	20	65	6	2
13636400	**4**	0,4	4,5	12	58	6	2
13636404	**4**	0,4	4,5	16	58	6	2
13636406	**4**	0,4	5	20	65	6	2

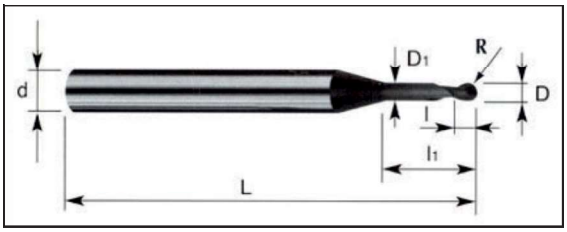
Descrizione:
Microfresa a testa toroidale, HM, con risvestimento multistrato.

HM microcutter with torus nose, multi-coated.



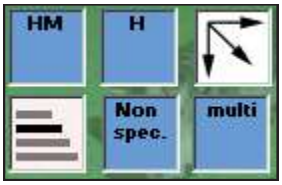
Microfresa a testa emisferica, HM, rivestita
HM microcutter with ball nose, coated

Art. 13638 GnuBo



Descrizione:
Microfresa a testa emisferica, HM, con rivestimento multistrato.

HM microcutter with ball nose, multi-coated.



ART. 13638								
Dati tecnici / Technical data								
Cod. Code	Dh10 [mm]	R [mm]	l [mm]	l_1 [mm]	L [mm]	D_1 [mm]	dh6 [mm]	Z
13638054	**0,5**	0,25	1	4	50	0,48	4	2
13638056	**0,5**	0,25	1	6	50	0,48	4	2
13638064	**0,6**	0,3	1	4	50	0,58	4	2
13638066	**0,6**	0,3	1	6	50	0,58	4	2
13638084	**0,8**	0,4	1	4	50	0,77	4	2
13638086	**0,8**	0,4	1	6	50	0,77	4	2
13638087	**0,8**	0,4	0,5	2	50	0,77	4	2
13638088	**0,8**	0,4	0,5	6	50	0,77	4	2
13638089	**0,8**	0,4	0,5	10	50	0,77	4	2
13638100	**1**	0,5	1	5	60	0,95	6	2
13638104	**1**	0,5	1	10	58	0,95	6	2
13638105	**1**	0,5	0,8	3	50	0,95	4	2
13638106	**1**	0,5	0,8	4	50	0,95	4	2
13638108	**1**	0,5	0,8	6	50	0,95	4	2
13638110	**1**	0,5	0,8	8	50	0,95	4	2
13638112	**1**	0,5	0,8	10	50	0,95	4	2
13638114	**1**	0,5	0,8	12	55	0,95	4	2
13638116	**1**	0,5	0,8	16	55	0,95	4	2
13638118	**1**	0,5	0,8	20	60	0,95	4	2
13638120	**1,2**	0,6	1,1	8	50	1,15	4	2
13638121	**1,2**	0,6	1,1	12	55	1,15	4	2
13638140	**1,4**	0,7	1,3	8	50	1,34	4	2
13638141	**1,4**	0,7	1,3	16	55	1,34	4	2
13638150	**1,5**	0,75	1,5	8	60	1,44	6	2
13638154	**1,5**	0,75	1,5	12	58	1,44	6	2
13638155	**1,5**	0,75	1,35	8	50	1,44	4	2
13638156	**1,5**	0,75	1,35	12	55	1,44	4	2
13638158	**1,5**	0,75	1,35	20	60	1,44	4	2
13638160	**1,6**	0,8	1,4	12	55	1,54	4	2
13638161	**1,6**	0,8	1,4	20	60	1,54	4	2
13638180	**1,8**	0,9	1,6	12	55	1,73	4	2
13638181	**1,8**	0,9	1,6	20	60	1,73	4	2
13638192	**2**	1	1,7	6	50	1,92	4	2
13638193	**2**	1	1,7	8	50	1,92	4	2
13638194	**2**	1	1,7	10	50	1,92	4	2
13638195	**2**	1	1,7	12	55	1,92	4	2
13638196	**2**	1	1,7	16	55	1,92	4	2
13638197	**2**	1	1,7	20	60	1,92	4	2
13638198	**2**	1	1,7	25	65	1,92	4	2
13638199	**2**	1	1,7	30	70	1,92	4	2
13638200	**2**	1	2	10	58	1,92	6	2
13638202	**2**	1	2	12	58	1,92	6	2
13638204	**2**	1	2	16	65	1,92	6	2
13638206	**2**	1	2	20	65	1,92	6	2
13638250	**2,5**	1,25	2,5	13	60	2,40	6	2
13638300	**3**	1,5	3	8	58	2,85	6	2
13638301	**3**	1,5	2,5	10	58	2,85	6	2
13638302	**3**	1,5	3	12	58	2,85	6	2
13638304	**3**	1,5	3	16	65	2,85	6	2
13638306	**3**	1,5	4	20	65	2,85	6	2
13638400	**4**	2	4,5	12	58	3,90	6	2
13638404	**4**	2	4,5	16	58	3,90	6	2
13638406	**4**	2	5	20	65	3,90	6	2

Hai dei parametri di lavoro ma non trovi l'utensile?
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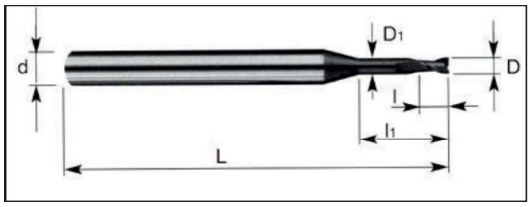
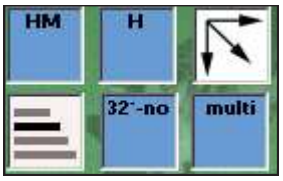
Di www.gnuttibortolo.com
Ti aiuteremo noi a trovare quello che stai cercando!

Microfresa a testa piana, HM, rivestita
HM microcutter with flat nose, coated

Art. 13640 GnuBo





Descrizione:
Microfresa a testa piana, HM, con rivestimento multistrato.

HM microcutter with flat nose, multi-coated.

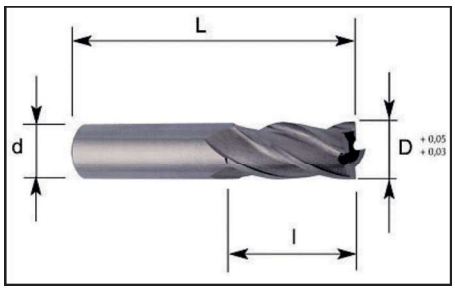
ART. 13640

Dati tecnici / Technical data

Cod. Code	Dh10 [mm]	l [mm]	l_1 [mm]	L [mm]	D_1 [mm]	dh6 [mm]	Z	Cod. Code	Dh10 [mm]	l [mm]	l_1 [mm]	L [mm]	D_1 [mm]	dh6 [mm]	Z
13640054	**0,5**	1	4	50	0,48	4	2	13640157	**1,5**	1,35	20	60	1,44	4	2
13640056	**0,5**	1	6	50	0,48	4	2	13640160	**1,6**	1,4	12	55	1,54	4	2
13640064	**0,6**	1	4	50	0,58	4	2	13640161	**1,6**	1,4	20	60	1,54	4	2
13640066	**0,6**	1	6	50	0,58	4	2	13640180	**1,8**	1,6	12	55	1,73	4	2
13640081	**0,8**	0,5	2	50	0,77	4	2	13640181	**1,8**	1,6	20	60	1,73	4	2
13640082	**0,8**	0,5	6	50	0,77	4	2	13640200	**2**	2	10	58	1,92	6	2
13640083	**0,8**	0,5	10	50	0,77	4	2	13640202	**2**	2	12	58	1,92	6	2
13640084	**0,8**	1	4	50	0,77	4	2	13640204	**2**	2	16	65	1,92	6	2
13640086	**0,8**	1	6	50	0,77	4	2	13640206	**2**	2	20	65	1,92	6	2
13640100	**1**	1	5	58	0,95	6	2	13640208	**2**	1,7	6	50	1,92	4	2
13640104	**1**	1	10	58	0,95	6	2	13640209	**2**	1,7	8	50	1,92	4	2
13640106	**1**	0,8	3	50	0,95	4	2	13640210	**2**	1,7	10	50	1,92	4	2
13640107	**1**	0,8	4	50	0,95	4	2	13640211	**2**	1,7	12	55	1,92	4	2
13640108	**1**	0,8	6	50	0,95	4	2	13640212	**2**	1,7	16	55	1,92	4	2
13640109	**1**	0,8	8	50	0,95	4	2	13640213	**2**	1,7	20	60	1,92	4	2
13640110	**1**	0,8	10	50	0,95	4	2	13640214	**2**	1,7	25	65	1,92	4	2
13640111	**1**	0,8	12	55	0,95	4	2	13640215	**2**	1,7	30	70	1,92	4	2
13640112	**1**	0,8	16	55	0,95	4	2	13640250	**2,5**	2	13	58	2,4	6	2
13640113	**1**	0,8	20	60	0,95	4	2	13640299	**3**	2,5	10	58	2,85	6	2
13640120	**1,2**	1,1	8	50	1,15	4	2	13640300	**3**	3	8	58	2,85	6	2
13640121	**1,2**	1,1	12	55	1,15	4	2	13640302	**3**	3	12	58	2,85	6	2
13640140	**1,4**	1,3	8	50	1,34	4	2	13640304	**3**	3	16	65	2,85	6	2
13640141	**1,4**	1,3	16	55	1,34	4	2	13640306	**3**	4	20	65	2,85	6	2
13640150	**1,5**	1,5	8	58	1,44	6	2	13640400	**4**	4,5	12	58	3,9	6	2
13640154	**1,5**	1,5	12	58	1,44	6	2	13640404	**4**	4,5	16	58	3,9	6	2
13640155	**1,5**	1,35	8	50	1,44	4	2	13640406	**4**	5	20	65	3,9	6	2
13640156	**1,5**	1,35	12	55	1,44	4	2								

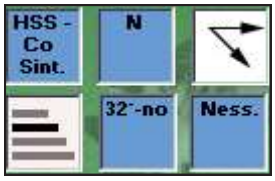
Fresa per finitura, HSS-Co sinterizzato
HSS-Co sintered finishing cutter

Art. 13660 GnuBo



Descrizione:
Fresa per finitura, HSS-Co sinterizzato.
UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered finishing cutter.
UNI 8244, DIN 844A, ISO 1641/I.



ART. 13660

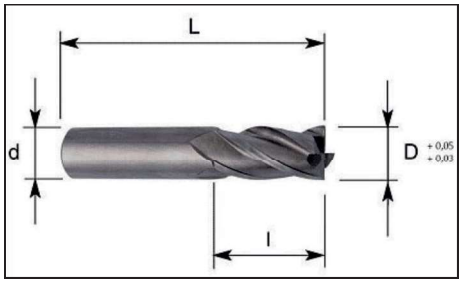
*** : su richiesta/under request**

Dati tecnici / Technical data

Cod.	D	l	L	dh6	Z	Cod.	D	l	L	dh6	Z
13660020	**2**	7	51	6	4	13660180	**18**	32	92	16	4
13660025	**2,5**	8	52	6	4	*	**18**	32	98	20	4
13660030	**3**	8	52	6	4	13660190	**19**	38	98	16	4
13660035	**3,5**	10	54	6	4	*	**19**	38	104	20	4
13660040	**4**	11	55	6	4	*	**20**	38	98	16	4
13660045	**4,5**	11	55	6	4	13660200	**20**	38	104	20	4
13660050	**5**	13	57	6	4	13660220	**22**	38	104	20	4
13660055	**5,5**	13	57	6	4	*	**22**	38	114	25	4
13660060	**6**	13	57	6	4	13660250	**25**	45	121	25	5
13660065	**6,5**	16	66	10	4	13660260	**26**	45	121	25	5
13660070	**7**	16	66	10	4	13660280	**28**	45	121	25	5
13660080	**8**	19	69	10	4	13660300	**30**	45	121	25	6
13660090	**9**	19	69	10	4	*	**32**	53	133	32	6
13660100	**10**	22	72	10	4	*	**34**	53	133	32	6
13660110	**11**	22	79	12	4	*	**35**	53	133	32	6
13660120	**12**	26	83	12	4	*	**36**	53	133	32	6
13660130	**13**	26	83	12	4	*	**38**	63	143	32	6
13660140	**14**	26	83	12	4	*	**40**	63	143	32	8
13660150	**15**	32	92	16	4	*	**45**	63	143	32	8
13660160	**16**	32	92	16	4	*	**48**	75	155	32	8
13660170	**17**	32	92	16	4	*	**50**	75	155	32	8

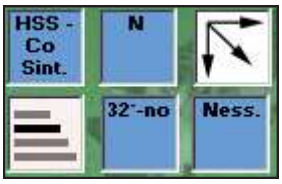
Fresa per finitura, HSS-Co sinterizzato, con taglio al centro
HSS-Co sintered finishing cutter, with central cut

Art. 13663 GnuBo



Descrizione:
Fresa per finitura, HSS-Co sinterizzato, con taglio al centro.
UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered finishing cutter, with central cut.
UNI 8244, DIN 844A, ISO 1641/I.



ART. 13663

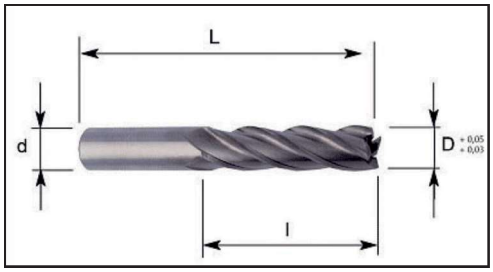
* : su richiesta/under request

Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z
13663020	**2**	7	51	6	4
13663030	**3**	8	52	6	4
13663040	**4**	11	55	6	4
13663050	**5**	13	57	6	4
13663060	**6**	13	57	6	4
13663080	**8**	19	69	10	4
13663100	**10**	22	72	10	4
13663120	**12**	26	83	12	4
13663140	**14**	26	83	12	4
13663150	**15**	32	92	16	4
13663160	**16**	32	92	16	4
13663180	**18**	32	92	16	4
13663182	**18**	32	98	20	4
13663200	**20**	38	98	16	4
13663205	**20**	38	104	20	4
*	**22**	38	104	20	4
*	**22**	38	114	25	4
*	**24**	45	121	25	5
*	**25**	45	121	25	5
*	**26**	45	121	25	5
*	**28**	45	121	25	5
*	**30**	45	121	25	6
*	**32**	53	133	32	6
*	**36**	53	133	32	6
*	**40**	63	143	32	8
*	**50**	75	155	32	8

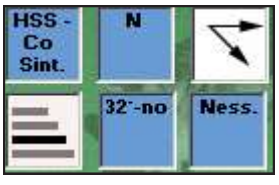
Fresa per finitura, HSS-Co sinterizzato
HSS-Co sintered finishing cutter

Art. 13671 GnuBo



Descrizione:
Fresa per finitura, HSS-Co sinterizzato.
UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered finishing cutter.
UNI 8244, DIN 844A, ISO 1641/I.



ART. 13671

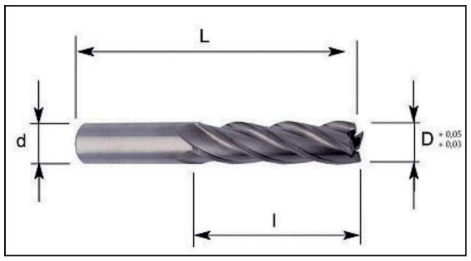
* : su richiesta/under request

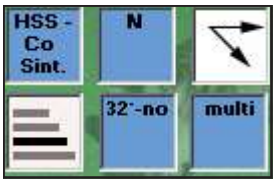
Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z	Cod.	D	I	L	dh6	Z
*	**2**	10	54	6	4	*	**18**	63	129	20	4
13671030	**3**	12	56	6	4	*	**19**	75	135	16	4
13671040	**4**	19	63	6	4	*	**19**	75	141	20	4
13671050	**5**	24	68	6	4	13671201	**20**	75	141	20	4
13671060	**6**	24	68	6	4	13671220	**22**	75	141	20	4
13671070	**7**	30	80	10	4	*	**22**	75	151	25	4
13671080	**8**	38	88	10	4	*	**24**	90	166	25	5
13671090	**9**	38	88	10	4	*	**25**	90	166	25	5
13671100	**10**	45	95	10	4	*	**26**	90	166	25	5
13671110	**11**	45	102	12	4	*	**28**	90	166	25	5
13671120	**12**	53	110	12	4	*	**30**	90	166	25	6
*	**13**	53	110	12	4	*	**32**	106	186	32	6
13671140	**14**	53	110	12	4	*	**34**	106	186	32	6
13671150	**15**	63	123	16	4	*	**35**	106	186	32	6
13671160	**16**	63	123	16	4	*	**36**	106	186	32	6
*	**17**	63	123	16	4	*	**38**	125	205	32	6
13671160	**18**	63	123	16	4	*	**40**	125	205	32	8

Fresa per finitura, HSS-Co sinterizzato, rivestita
HSS-Co sintered finishing cutter, coated

Art. 13680 GnuBo





Descrizione:
Fresa per finitura, HSS-Co sinterizzato, con rivestimento multistrato. UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered finishing cutter, multicoated. UNI 8244, DIN 844A, ISO 1641/I.

ART. 13680

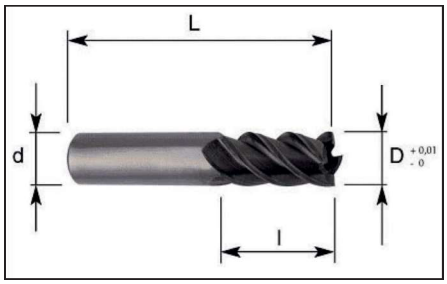
*** : su richiesta/under request**

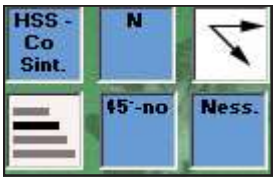
Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z	Cod.	D	I	L	dh6	Z
*	**2**	10	54	6	4	*	**19**	75	135	16	4
13680030	**3**	12	56	6	4	*	**19**	75	141	20	4
13680040	**4**	19	63	6	4	*	**20**	75	135	16	4
13680050	**5**	24	68	6	4	13680200	**20**	75	141	20	4
13680060	**6**	24	68	6	4	13680220	**22**	75	141	20	4
*	**7**	30	80	10	4	*	**22**	75	151	25	4
13680080	**8**	38	88	10	4	*	**24**	90	166	25	5
*	**9**	38	88	10	4	*	**25**	90	166	25	5
13680100	**10**	45	95	10	4	*	**26**	90	166	25	5
*	**11**	45	102	12	4	*	**28**	90	166	25	5
13680120	**12**	53	110	12	4	*	**30**	90	166	25	6
*	**13**	53	110	12	4	*	**32**	106	186	32	6
13680140	**14**	53	110	12	4	*	**34**	106	186	32	6
*	**15**	63	123	16	4	*	**35**	106	186	32	6
13680160	**16**	63	123	16	4	*	**36**	106	186	32	6
*	**17**	63	123	16	4	*	**38**	125	205	32	6
13680180	**18**	63	123	16	4	*	**40**	125	205	32	8
*	**18**	63	129	20	4						

Fresa per finitura a 4 taglienti, HSS-Co sinterizzato
HSS-Co sintered finishing cutter, with 4 cutting edges

Art. 13690 GnuBo





Descrizione:
Fresa per finitura a 4 taglienti, HSS-Co sinterizzato.
UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered finishing cutter, with 4 cutting edges.
UNI 8244, DIN 844A, ISO 1641/I.

ART. 13690

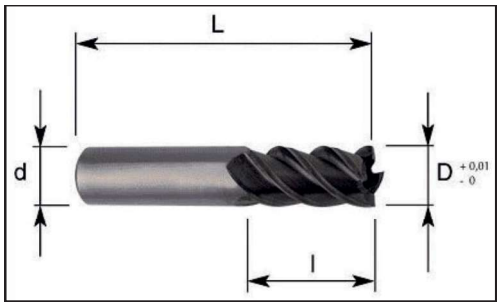
*** : su richiesta/under request**

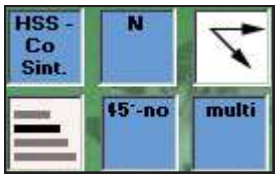
Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z
*	**2**	7	51	6	4
*	**3**	8	52	6	4
13690040	**4**	11	55	6	4
13690050	**5**	13	57	6	4
13690060	**6**	13	57	6	4
*	**7**	16	66	10	4
13690080	**8**	19	69	10	4
13690100	**10**	22	72	10	4
13690120	**12**	26	83	12	4
*	**14**	26	83	12	4
*	**15**	32	92	16	4
13690160	**16**	32	92	16	4
*	**18**	32	92	16	4
13690200	**20**	38	104	20	4
*	**22**	38	104	20	4

Fresa per finitura a 4 taglienti, HSS-Co sinterizzato, rivestita
HSS-Co sintered finishing cutter, with 4 cutting edges, coated

Art. 13700 GnuBo





Descrizione:
Fresa per finitura a 4 taglienti, HSS-Co sinterizzato, con rivestimento multistrato. UNI 8244, DIN 844A, ISO 1641/I.

HSS-Co sintered finishing cutter, with 4 cutting edges, multicoated. UNI 8244, DIN 844A, ISO 1641/I.

ART. 13700

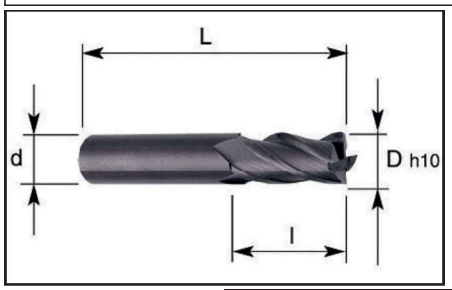
* : su richiesta/under request

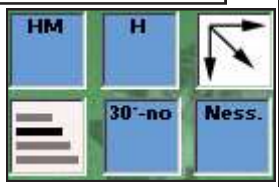
Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z
13700020	**2**	7	51	6	4
13700030	**3**	8	52	6	4
13700040	**4**	11	55	6	4
13700050	**5**	13	57	6	4
13700060	**6**	13	57	6	4
13700070	**7**	16	66	10	4
13700080	**8**	19	69	10	4
13700100	**10**	22	72	10	4
13700120	**12**	26	83	12	4
13700140	**14**	26	83	12	4
13700150	**15**	32	92	16	4
13700160	**16**	32	92	16	4
13700180	**18**	32	92	16	4
13700200	**20**	38	104	20	4
*	**22**	38	104	20	4

Fresa per finitura a 4 taglienti, HM
HM finishing cutter, with 4 cutting edges

Art. 13711 GnuBo





Descrizione:
Fresa per finitura a 4 taglienti, HM.
DIN 6528.

HM finishing cutter, with 4 cutting edges, DIN 6528.

ART. 13711

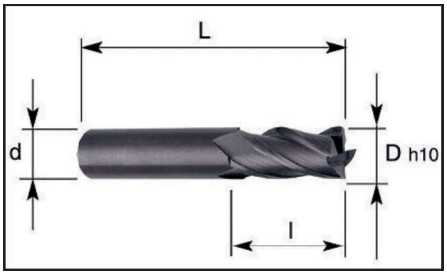
* : su richiesta/under request

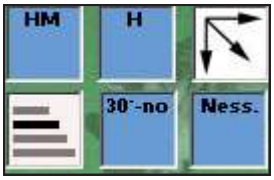
Dati tecnici / Technical data

Cod.	Dh10	I	L	dh6	Z	Cod.	Dh10	I	L	dh6	Z
13711020	**2**	7	40	2	4	13711090	**9**	19	67	9	4
13711025	**2,5**	10	40	2,5	4	*	**9,5**	22	72	9,5	4
13711030	**3**	10	40	3	4	13711100	**10**	22	72	10	4
13711035	**3,5**	11	50	3,5	4	*	**10,5**	22	72	10,5	4
13711040	**4**	11	50	4	4	*	**11**	22	83	11	4
13711045	**4,5**	13	50	4,5	4	13711120	**12**	26	83	12	4
13711050	**5**	13	50	5	4	*	**13**	26	83	13	4
*	**5,5**	16	57	5,5	4	*	**14**	28	83	14	4
13711060	**6**	16	57	6	4	*	**15**	32	92	15	4
*	**6,5**	16	60	6,5	4	13711160	**16**	32	92	16	4
13711070	**7**	16	60	7	4	*	**17**	32	92	17	4
*	**7,5**	19	63	7,5	4	13711180	**18**	32	92	18	4
13711080	**8**	19	63	8	4	*	**19**	38	104	19	4
*	**8,5**	19	67	8,5	4	13711200	**20**	38	104	20	4

Fresa per finitura a 4 taglienti, HM, rivestita
HM finishing cutter, with 4 cutting edges, coated

Art. 13715 GnuBo





Descrizione:
Fresa per finitura a 4 taglienti, HM, con rivestimento multistrato.
DIN 6528.

HM finishing cutter, with 4 cutting edges, multicoated.
DIN 6528.

ART. 13715

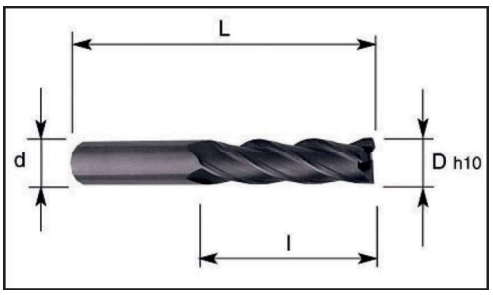
* : su richiesta/under request

Dati tecnici / Technical data

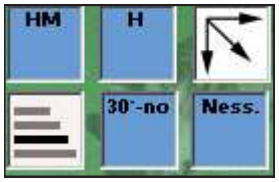
Cod.	Dh10	I	L	dh6	Z
13715020	**2**	7	40	2	4
*	**2,5**	10	40	2,5	4
13715030	**3**	10	40	3	4
*	**3,5**	11	50	3,5	4
13715040	**4**	11	50	4	4
*	**4,5**	13	50	4,5	4
13715050	**5**	13	50	5	4
*	**5,5**	16	57	5,5	4
13715060	**6**	16	57	6	4
*	**6,5**	16	60	6,5	4
*	**7**	16	60	7	4
*	**7,5**	19	63	7,5	4
13715080	**8**	19	63	8	4
*	**8,5**	19	67	8,5	4
*	**9**	19	67	9	4
*	**9,5**	22	72	9,5	4
13715100	**10**	22	72	10	4
*	**10,5**	22	72	10,5	4
*	**11**	22	83	11	4
13715120	**12**	26	83	12	4
*	**13**	26	83	13	4
13715140	**14**	28	83	14	4
*	**15**	32	92	15	4
13715160	**16**	32	92	16	4
*	**17**	32	92	17	4
*	**18**	32	92	18	4
*	**19**	38	104	19	4
*	**20**	38	104	20	4

Fresa per finitura a 4 taglienti, HM
HM finishing cutter, with 4 cutting edges

Art. 13720 GnuBo



ART. 13720					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	Dh10	l	L	dh6	Z
13720030	**3**	20	55	3	4
13720040	**4**	20	60	4	4
13720050	**5**	20	60	5	4
13720060	**6**	24	65	6	4
*	**7**	30	75	7	4
13720080	**8**	32	80	8	4
*	**9**	32	80	9	4
13720100	**10**	32	80	10	4
*	**11**	50	100	11	4
13720120	**12**	50	100	12	4
*	**13**	55	115	13	4
*	**14**	55	115	14	4
*	**15**	60	120	15	4
*	**16**	60	120	16	4
*	**17**	60	120	17	4
*	**18**	60	120	18	4
*	**19**	60	130	19	4
*	**20**	60	130	20	4

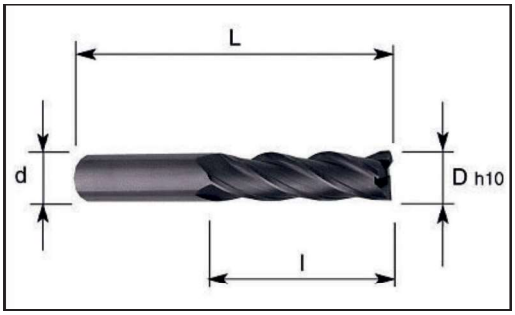


Descrizione:
Fresa per finitura a 4 taglienti, HM.

HM finishing cutter, with 4 cutting edges.

Fresa per finitura a 4 taglienti, HM
HM finishing cutter, with 4 cutting edges

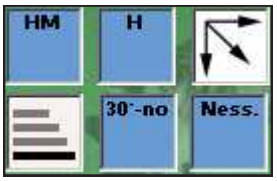
Art. 13730 GnuBo



ART. 13730					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	Dh10	l	L	dh6	Z
*	**3**	25	70	3	4
13730040	**4**	32	72	4	4
13730050	**5**	32	80	5	4
13730060	**6**	40	82	6	4
*	**7**	42	100	7	4
13730080	**8**	42	100	8	4
*	**9**	45	100	9	4
13730100	**10**	45	100	10	4
*	**11**	70	130	11	4
13730120	**12**	75	160	12	4
*	**13**	75	160	13	4
*	**14**	75	160	14	4
*	**15**	75	160	15	4
*	**16**	75	160	16	4
*	**17**	75	160	17	4
*	**18**	75	160	18	4
*	**19**	75	160	19	4
*	**20**	75	160	20	4

Descrizione:
Fresa per finitura a 4 taglienti, HM.

HM finishing cutter, with 4 cutting edges.



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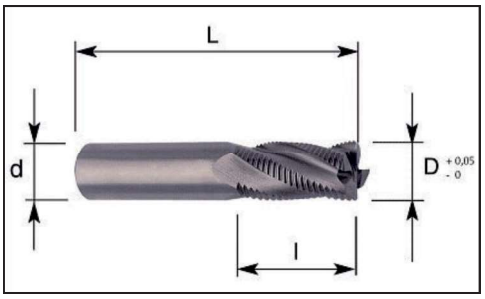
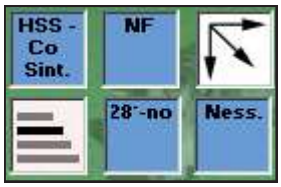
Fresa per sgrossatura, HSS-Co sinterizzato
HSS-Co sintered roughing cutter

Art. 13750 GnuBo



Descrizione:
Fresa per sgrossatura, HSS-Co sinterizzato. UNI 8244, DIN 844A, ISO 1641/I.



HSS-Co sintered roughing cutter.
UNI 8244, DIN 844A, ISO 1641/I.

ART. 13750

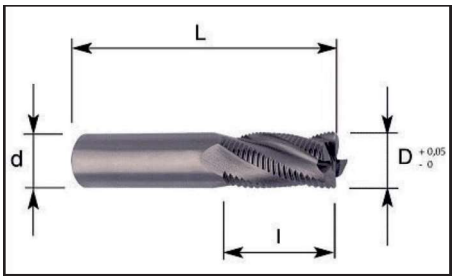
* : su richiesta/under request

Dati tecnici / Technical data

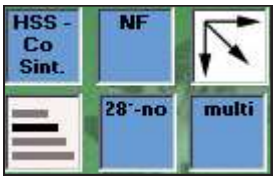
Cod.	D	I	L	dh6	Z	Cod.	D	I	L	dh6	Z
13750060	**6**	13	57	6	3	13750200	**20**	38	98	16	4
13750070	**7**	16	66	10	3	13750207	**20**	38	104	20	4
13750080	**8**	19	69	10	4	*	**22**	38	104	20	4
13750090	**9**	19	69	10	4	*	**22**	38	114	25	4
13750100	**10**	22	72	10	4	*	**24**	45	121	25	5
*	**11**	22	79	12	4	*	**25**	45	121	25	5
13750120	**12**	26	83	12	4	*	**26**	45	121	25	5
13750130	**13**	26	83	12	4	*	**28**	45	121	25	5
13750140	**14**	26	83	12	4	*	**30**	45	121	25	5
13750150	**15**	32	92	16	4	*	**32**	53	133	32	5
13750160	**16**	32	92	16	4	*	**36**	53	133	32	6
13750170	**17**	32	92	16	4	*	**40**	63	143	32	6
13750180	**18**	32	92	16	4	*	**45**	63	143	32	6
*	**18**	32	98	20	4	*	**50**	75	155	32	7

Fresa per sgrossatura, HSS-Co sinterizzato, rivestita
HSS-Co sintered roughing cutter, coated

Art. 13753 GnuBo



Descrizione:
Fresa per sgrossatura, HSS-Co sinterizzato, con rivestimento multistrato. UNI 8244, DIN 844A, ISO 1641/I.



HSS-Co sintered roughing cutter, multicoated.

ART. 13753

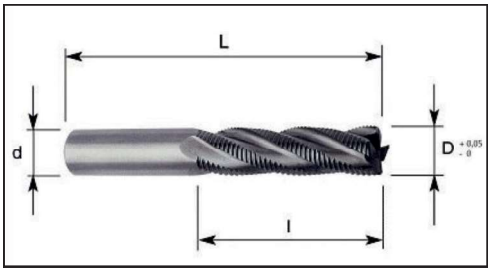
* : su richiesta/under request

Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z	Cod.	D	I	L	dh6	Z
13753060	**6**	13	57	6	3	*	**20**	38	98	16	4
*	**7**	16	66	10	3	13753207	**20**	38	104	20	4
13753080	**8**	19	69	10	4	*	**22**	38	104	20	4
13753090	**9**	19	69	10	4	*	**22**	30	114	25	4
13753100	**10**	22	72	10	4	*	**24**	45	121	25	5
*	**11**	22	79	12	4	*	**25**	45	121	25	5
13753120	**12**	26	83	12	4	*	**26**	45	121	25	5
*	**13**	26	83	12	4	*	**28**	45	121	25	5
13753140	**14**	26	83	12	4	*	**30**	45	121	25	5
13753150	**15**	32	92	16	4	*	**32**	53	133	32	5
13753160	**16**	32	92	16	4	*	**36**	53	133	32	6
*	**17**	32	92	16	4	*	**40**	63	143	32	6
13753180	**18**	32	92	16	4	*	**45**	63	143	32	6
*	**18**	32	98	20	4	*	**50**	75	155	32	7

Fresa per sgrossatura, HSS-Co sinterizzato
HSS-Co sintered roughing cutter

Art. 13765 GnuBo



Descrizione:
Fresa per sgrossatura, HSS-Co sinterizzato. UNI 8244, DIN 844A, ISO 1641/I.

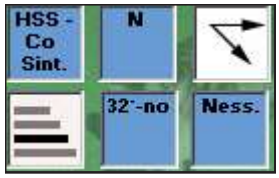
HSS-Co sintered roughing cutter. UNI 8244, DIN 844A, ISO 1641/I.

ART. 13765

* : su richiesta/under request

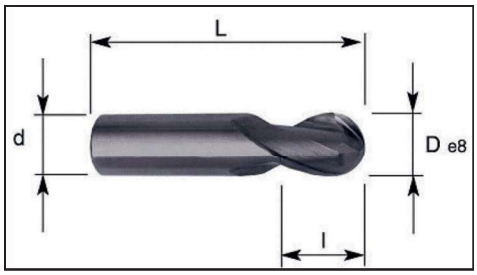
Dati tecnici / Technical data

Cod.	D	I	L	dh6	Z
13765080	**8**	38	88	10	4
13765100	**10**	45	95	10	4
13765120	**12**	53	110	12	4
13765140	**14**	53	110	12	4
*	**15**	63	123	16	4
13765160	**16**	63	123	16	4
13765180	**18**	63	123	16	4
*	**18**	63	129	20	4
13765200	**20**	75	135	16	4
13765207	**20**	75	141	20	4
*	**22**	75	141	20	4
*	**22**	75	151	25	4
*	**24**	90	166	25	5
*	**25**	90	166	25	5
*	**28**	90	166	25	5
*	**30**	90	166	25	5
*	**32**	106	186	32	5
*	**36**	106	186	32	6
*	**40**	125	205	32	6
*	**45**	125	205	32	6
*	**50**	150	230	32	7



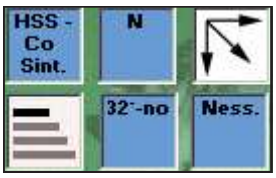
Fresa a testa emisferica a 2 taglienti per stampi, HSS-Co sinterizzato
HSS-Co sintered cutter with ball nose for dies, with 2 cutting edges

Art. 13811 GnuBo



Descrizione:
Fresa a testa emisferica a 2 taglienti per stampi, HSS-Co sinterizzato. ISO 1641/I.

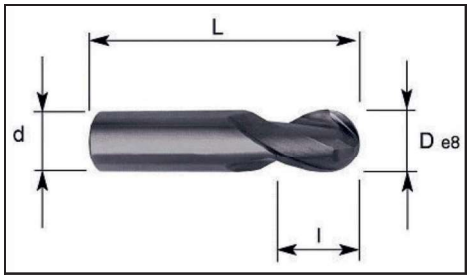
HSS-Co sintered cutter with ball nose for dies, with 2 cutting edges. ISO 1641/I.



ART. 13811					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	De8	I	L	dh6	Z
*	**1**	3	47	6	2
*	**1,5**	3	47	6	2
13811020	**2**	4	48	6	2
13811030	**3**	5	49	6	2
13811040	**4**	7	51	6	2
13811050	**5**	8	52	6	2
13811060	**6**	8	52	6	2
*	**7**	10	60	10	2
13811080	**8**	11	61	10	2
*	**9**	11	61	10	2
13811100	**10**	13	63	10	2
*	**11**	13	70	12	2
13811120	**12**	16	73	12	2
*	**13**	16	73	12	2
13811140	**14**	16	73	12	2
*	**15**	19	79	16	2
13811160	**16**	19	79	16	2
*	**17**	19	79	16	2
13811180	**18**	19	79	16	2
*	**19**	22	88	20	2
13811200	**20**	22	88	20	2
*	**22**	22	88	20	2
*	**25**	26	102	25	2
*	**28**	26	102	25	2
*	**30**	26	102	25	2
*	**32**	32	112	32	2

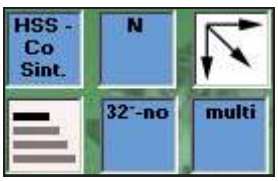
Fresa a testa emisferica a 2 taglienti per stampi, HSS-Co sinterizzato, rivestita
HSS-Co sintered cutter with ball nose for dies, with 2 cutting edges, coated

Art. 13814 GnuBo



Descrizione:
Fresa a testa emisferica a 2 taglienti per stampi, HSS-Co sinterizzato, con rivestimento multistrato. ISO 1641/I.

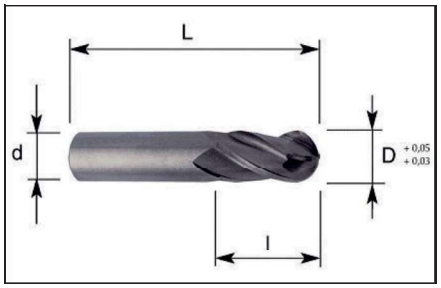
HSS-Co sintered cutter with ball nose for dies, with 2 cutting edges, multi-coated. ISO 1641/I.

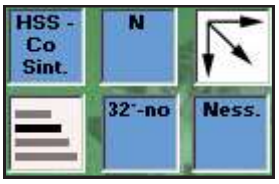


ART. 13814					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	De8	I	L	dh6	Z
*	**1**	3	47	6	2
*	**1,5**	3	47	6	2
13814020	**2**	4	48	6	2
13814030	**3**	5	49	6	2
13814040	**4**	7	51	6	2
13814050	**5**	8	52	6	2
13814060	**6**	8	52	6	2
*	**7**	10	60	10	2
13814080	**8**	11	61	10	2
*	**9**	11	61	10	2
13814100	**10**	13	63	10	2
*	**11**	13	70	12	2
13814120	**12**	16	73	12	2
*	**13**	16	73	12	2
13814140	**14**	16	73	12	2
*	**15**	19	79	16	2
13814160	**16**	19	79	16	2
*	**17**	19	79	16	2
13814180	**18**	19	79	16	2
*	**19**	22	88	20	2
13814200	**20**	22	88	20	2
*	**22**	22	88	20	2
*	**25**	26	102	25	2
*	**28**	26	102	25	2
*	**30**	26	102	25	2
*	**32**	32	112	32	2

Fresa a testa emisferica per stampi, HSS-Co sinterizzato
HSS-Co sintered cutter with ball nose for dies

Art. 13831 GnuBo





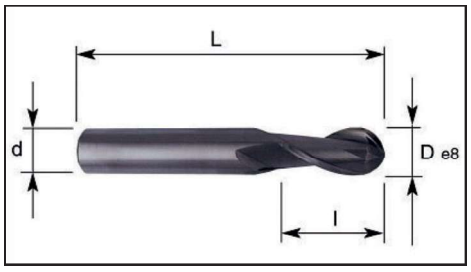
Descrizione:
Fresa a testa emisferica per stampi, HSS-Co sinterizzato. ISO 1641/I.

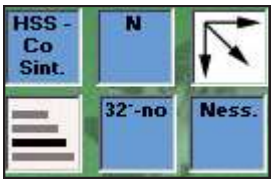
HSS-Co sintered cutter with ball nose for dies. ISO 1641/I.

ART. 13831					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	D	I	L	dh6	Z
*	**2**	7	51	6	4
*	**3**	8	52	6	4
13831040	**4**	11	55	6	4
13831050	**5**	13	57	6	4
13831060	**6**	13	57	6	4
13831080	**8**	19	69	10	4
13831100	**10**	22	72	10	4
13831120	**12**	26	83	12	4
13831140	**14**	26	83	12	4
13831150	**15**	32	92	16	4
13831160	**16**	32	92	16	4
13831180	**18**	32	92	16	4
*	**18**	32	98	20	4
*	**20**	38	98	16	4
13831200	**20**	38	104	20	4
13831220	**22**	38	104	20	4
*	**22**	38	114	25	4
*	**24**	45	121	25	5
13831250	**25**	45	121	25	5
*	**26**	45	121	25	5
13831280	**28**	45	121	25	5
13831300	**30**	45	121	25	6
13831320	**32**	53	133	32	6
*	**36**	53	133	32	6
*	**40**	63	143	32	8
*	**50**	75	155	32	8

Fresa a testa emisferica a 2 taglienti per stampi, HSS-Co sinterizzato
HSS-Co sintered cutter with ball nose for dies, with 2 cutting edges

Art. 13841 GnuBo





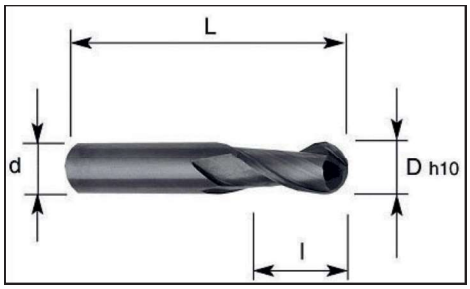
Descrizione:
Fresa a testa emisferica a 2 taglienti per stampi, HSS-Co sinterizzato.

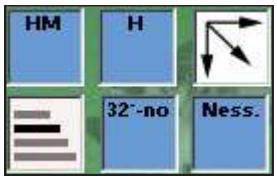
HSS-Co sintered cutter with ball nose for dies, with 2 cutting edges.

ART. 13841					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	De8	I	L	dh6	Z
13841040	**4**	13	67	6	2
13841050	**5**	16	70	6	2
13841060	**6**	16	76	6	2
*	**7**	19	79	10	2
13841080	**8**	19	79	10	2
*	**9**	22	83	10	2
13841100	**10**	22	83	10	2
*	**11**	25	95	12	2
13841120	**12**	28	98	12	2
*	**13**	28	98	12	2
13841140	**14**	32	102	12	2
*	**15**	32	108	16	2
13841160	**16**	32	108	16	2
*	**17**	35	114	16	2
13841180	**18**	35	114	16	2
*	**19**	38	132	20	2
13841200	**20**	38	132	20	2
*	**22**	41	135	20	2
*	**25**	44	159	25	2
*	**28**	44	159	25	2
*	**30**	50	159	25	2
*	**32**	52	165	32	2

Fresa a testa emisferica a 2 taglienti, HM
HM cutter with ball nose, with 2 cutting edges

Art. 13871 GnuBo





Descrizione:
Fresa a testa emisferica a 2 taglienti, HM.

HM cutter with ball nose, with 2 cutting edges.

ART. 13871

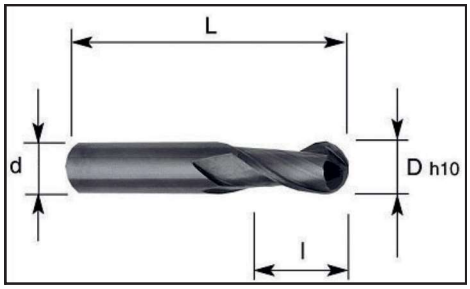
* : su richiesta/under request

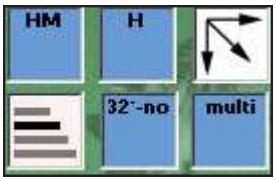
Dati tecnici / Technical data

Cod.	Dh10	I	L	dh6	Z
13871020	**2**	7	40	2	2
13871030	**3**	8	40	3	2
13871040	**4**	10	50	4	2
13871050	**5**	12	50	5	2
13871060	**6**	14	57	6	2
*	**7**	14	60	7	2
13871080	**8**	16	63	8	2
13871090	**9**	18	67	9	2
13871100	**10**	20	72	10	2
*	**11**	20	83	11	2
13871120	**12**	22	83	12	2
*	**13**	25	83	13	2
13871140	**14**	25	83	14	2
*	**15**	32	92	15	2
13871160	**16**	32	92	16	2
*	**17**	32	92	17	2
13871180	**18**	32	92	18	2
*	**19**	38	104	19	2
13871200	**20**	38	104	20	2

Fresa a testa emisferica a 2 taglienti, HM, rivestita
HM cutter with ball nose, with 2 cutting edges, coated

Art. 13874 GnuBo





Descrizione:
Fresa a testa emisferica a 2 taglienti, HM,
con rivestimento multistrato.

HM cutter with ball nose, with 2 cutting edges,
multi-coated.

ART. 13874

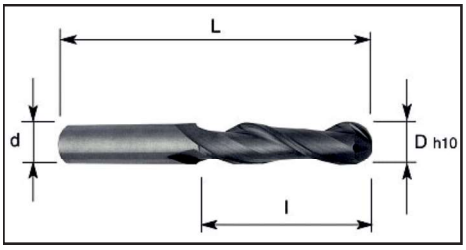
* : su richiesta/under request

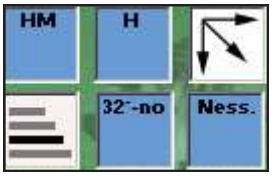
Dati tecnici / Technical data

Cod.	Dh10	I	L	dh6	Z
13874020	**2**	7	40	2	2
13874030	**3**	8	40	3	2
13874040	**4**	10	50	4	2
13874050	**5**	12	50	5	2
13874060	**6**	14	57	6	2
*	**7**	14	60	7	2
13874080	**8**	16	63	8	2
*	**9**	18	67	9	2
13874100	**10**	20	72	10	2
*	**11**	20	83	11	2
13874120	**12**	22	83	12	2
*	**13**	25	83	13	2
*	**14**	25	83	14	2
*	**15**	32	92	15	2
*	**16**	32	92	16	2
*	**17**	32	92	17	2
*	**18**	32	92	18	2
*	**19**	38	104	19	2
*	**20**	38	104	20	2

Fresa a testa emisferica a 2 taglienti, HM
HM cutter with ball nose, with 2 cutting edges

Art. 13878 GnuBo





Descrizione:
Fresa a testa emisferica a 2 taglienti, HM.

HM cutter with ball nose, with 2 cutting edges.

ART. 13878

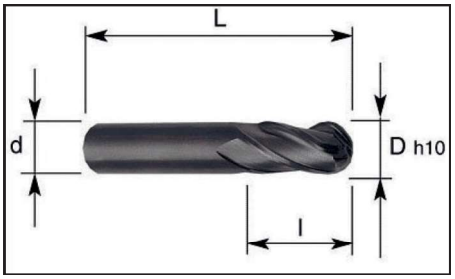
* : su richiesta/under request

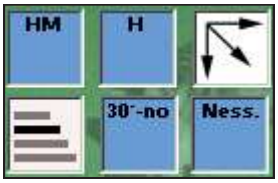
Dati tecnici / Technical data

Cod.	Dh10	I	L	dh6	Z	Cod.	Dh10	I	L	dh6	Z
*	**3**	20	55	3	2	*	**12**	50	100	12	2
13878040	**4**	20	60	4	2	*	**13**	55	115	13	2
*	**5**	20	60	5	2	*	**14**	55	115	14	2
13878060	**6**	24	65	6	2	*	**15**	60	120	15	2
*	**7**	30	75	7	2	*	**16**	60	120	16	2
13878080	**8**	32	80	8	2	*	**17**	60	120	17	2
*	**9**	32	80	9	2	*	**18**	60	120	18	2
13878100	**10**	32	80	10	2	*	**19**	60	130	19	2
*	**11**	50	100	11	2	*	**20**	60	130	20	2

Fresa a testa emisferica a 4 taglienti, HM
HM cutter with ball nose, with 4 cutting edges

Art. 13881 GnuBo





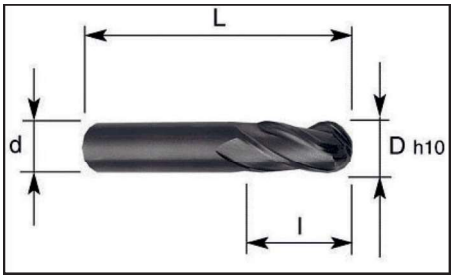
ART. 13881											
* : su richiesta/under request											
Dati tecnici / Technical data											
Cod.	Dh10	l	L	dh6	Z	Cod.	Dh10	l	L	dh6	Z
13881020	**2**	7	40	2	4	13881120	**12**	26	83	12	4
13881030	**3**	10	40	3	4	*	**13**	26	83	13	4
13881040	**4**	11	50	4	4	13881140	**14**	28	83	14	4
13881050	**5**	13	50	5	4	*	**15**	32	92	15	4
13001060	**6**	16	57	6	4	*	**16**	32	92	16	4
13881070	**7**	16	60	7	4	*	**17**	32	92	17	4
13881080	**8**	19	63	8	4	*	**18**	32	92	18	4
13881090	**9**	19	67	9	4	*	**19**	38	104	19	4
13881100	**10**	22	72	10	4	*	**20**	38	104	20	4
13881110	**11**	22	83	11	4						

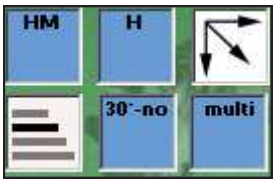
Descrizione:
Fresa a testa emisferica a 4 taglienti, HM.

HM cutter with ball nose, with 4 cutting edges.

Fresa a testa emisferica a 4 taglienti, HM, rivestita
HM cutter with ball nose, with 4 cutting edges, coated

Art. 13884 GnuBo





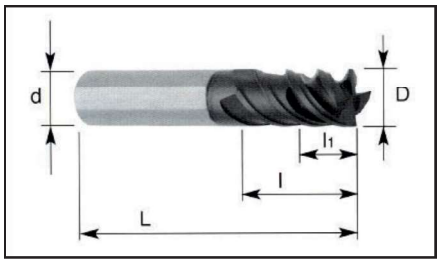
ART. 13884											
* : su richiesta/under request											
Dati tecnici / Technical data											
Cod.	Dh10	l	L	dh6	Z	Cod.	Dh10	l	L	dh6	Z
*	**2**	7	40	2	4	*	**12**	26	83	12	4
13884030	**3**	10	40	3	4	*	**13**	26	83	13	4
13884040	**4**	11	50	4	4	*	**14**	28	83	14	4
13884050	**5**	13	50	5	4	*	**15**	32	92	15	4
13884060	**6**	16	57	6	4	*	**16**	32	92	16	4
*	**7**	16	60	7	4	*	**17**	32	92	17	4
13884080	**8**	19	63	8	4	*	**18**	32	92	18	4
*	**9**	19	67	9	4	*	**19**	38	104	19	4
13884100	**10**	22	72	10	4	*	**20**	38	104	20	4
*	**11**	22	83	11	4						

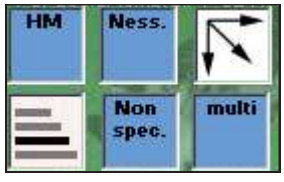
Descrizione:
Fresa a testa emisferica a 4 taglienti, HM, con rivestimento multistrato.

HM cutter with ball nose, with 4 cutting edges, multi-coated.

Fresa ad alta velocità per sgossatura, HM, rivestita
HM high speed roughing cutter, coated

Art. 13955 GnuBo





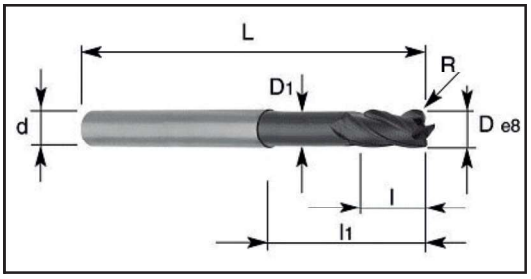
ART. 13955						
Dati tecnici / Technical data						
Cod.	Dh10	l	l_1	L	dh6	Z
13955040	**4**	11	6	57	6	4
13955050	**5**	13	7	57	6	4
13955060	**6**	13	7	57	6	4
13955080	**8**	19	10	63	8	4

Descrizione:
Fresa ad alta velocità a 4 taglienti per sgrossatura, HM, con rivestimento multistrato.
Per acciai temprati > 52 HRC.

HM high speed roughing cutter, with 4 cutting edges, multicoated.
For hardened steels > 52 HRC.

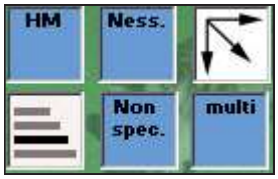
Fresa ad alta velocità raggiata, HM, rivestita
HM high speed cutter with radius, coated

Art. 13960 GnuBo



Descrizione:
Fresa ad alta velocità a 4 taglienti raggiata, HM, con rivestimento multistrato. Per acciai temprati > 52 HRC.

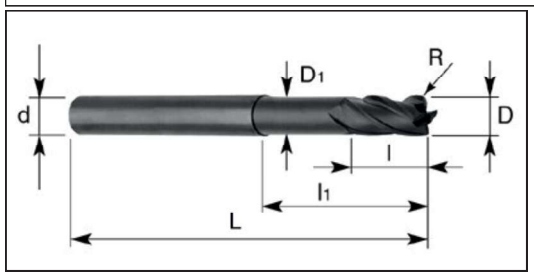
HM high speed cutter with radius, with 4 cutting edges, multicoated.
For hardened steels > 52 HRC.



ART. 13960								
* : su richiesta/under request								
Dati tecnici / Technical data								
Cod.	De8	R	l	D_1	l_1	L	dh6	Z
13960030	**3**	0,5	4	2,8	9	57	6	4
13960040	**4**	0,5	5	3,7	12	57	6	4
13960050	**5**	0,5	6	4,6	15	57	6	4
13960060	**6**	1	7	5,5	20	57	6	4
13960061	**6**	1	7	5,5	33	70	6	4
13960080	**8**	1	9	7,4	26	63	8	4
13960081	**8**	1	9	7,4	43	80	8	4
13960100	**10**	1,5	11	9,2	31	72	10	4
*	**10**	1,5	11	9,2	43	84	10	4
*	**12**	1,5	12	11	37	83	12	4
*	**12**	1,5	12	11	51	97	12	4
*	**16**	2	16	15	43	92	16	4
*	**16**	2	16	15	71	120	16	4
*	**20**	2	20	19	53	104	20	4
*	**20**	2	20	19	79	130	20	4
*	**25**	2,5	25	24	64	121	25	4
*	**25**	2,5	25	24	93	150	25	4

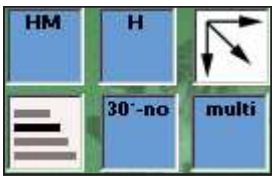
Fresa ad alta velocità raggiata, HM, rivestita
HM high speed cutter with radius, coated

Art. 13970 GnuBo



Descrizione:
Fresa ad alta velocità a 4 taglienti raggiata, HM, con rivestimento multistrato. Per acciai temprati > 52 HRC.

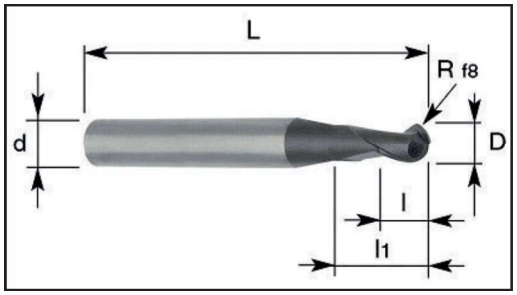
HM high speed cutter with radius, with 4 cutting edges, multicoated.
For hardened steels > 52 HRC.



ART. 13970								
* : su richiesta/under request								
Dati tecnici / Technical data								
Cod.	Dh10	R	l	D_1	L	l_1	dh6	Z
13970020	**2**	0,2	7	1,9	40	11	2	4
13970030	**3**	0,3	10	2,8	40	13	3	4
13970040	**4**	0,5	11	3,7	50	16	4	4
13970050	**5**	0,5	13	4,6	50	16	5	4
13970060	**6**	0,5	16	5,5	57	20	6	4
13970080	**8**	1,0	19	7,4	63	23	8	4
13970100	**10**	1,0	22	9,2	72	28	10	4
13970120	**12**	1,0	26	11	83	32	12	4
*	**14**	1,5	28	13	83	34	14	4
*	**16**	1,5	32	15	92	42	16	4
*	**18**	2,0	32	17	92	42	18	4
*	**20**	2,0	38	19	104	50	20	4

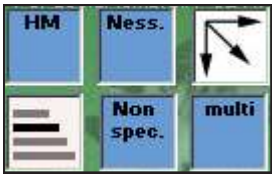
Fresa ad alta velocità a testa emisferica, HM, rivestita
HM high speed cutter with ball nose, coated

Art. 14070 GnuBo



Descrizione:
Fresa ad alta velocità a 2 taglienti a testa emisferica, HM, con rivestimento multistrato. Per acciai temprati > 52 HRC.

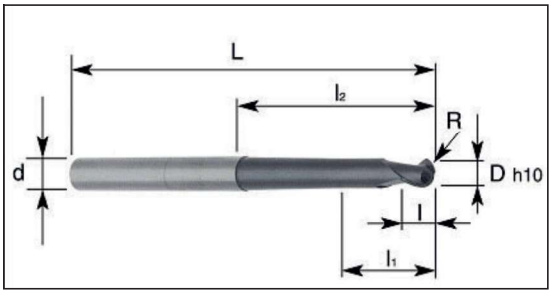
HM high speed cutter with ball nose, with 2 cutting edges, multicoated. For hardened steels > 52 HRC.



ART. 14070							
* : su richiesta/under request							
Dati tecnici / Technical data							
Cod.	D	Rf8	I	I1	L	dh6	Z
*	**1**	0,5	2,5	4	50	4	2
*	**1,5**	0,75	2,5	4	50	4	2
14070020	**2**	1	3	4	50	6	2
*	**2,5**	1,25	3	4	50	6	2
14070030	**3**	1,5	5	7	60	6	2
14070040	**4**	2	6	8	70	6	2
14070050	**5**	2,5	8	10	80	6	2
14070060	**6**	3	9		90	6	2
*	**7**	3,5	11	13	100	8	2
14070080	**8**	4	12		100	8	2
14070100	**10**	5	15		100	10	2
*	**12**	6	18		110	12	2
*	**16**	8	24		140	16	2
*	**20**	10	30		160	20	2

Fresa ad alta velocità a testa emisferica, HM, rivestita
HM high speed cutter with ball nose, coated

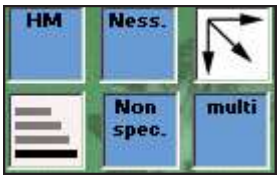
Art. 14080 GnuBo



ART. 14080								
* : su richiesta/under request								
Dati tecnici / Technical data								
Cod.	Dh10	R	I	I1	I2	L	dh6	Z
*	**1**	0,5	2	4	40	80	6	2
14080020	**2**	1	3	8	40	80	6	2
14080030	**3**	1,5	4	12	40	80	6	2
14080040	**4**	2	5	16	40	80	6	2
14080050	**5**	2,5	6	20	40	80	6	2
14080060	**6**	3	6			80	6	2
*	**6**	3	6	25	50	100	8	2
14080080	**8**	4	7			100	8	2
*	**8**	4	7	32	60	120	10	2
*	**10**	5	9			120	10	2
*	**10**	5	9	40	80	160	12	2
*	**12**	6	11	50	100	200	16	2

Descrizione:
Fresa ad alta velocità a 2 taglienti a testa emisferica, HM, con rivestimento multistrato. Per acciai temprati > 52 HRC.

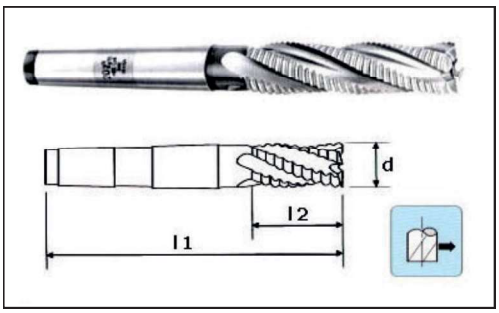
HM high speed cutter with ball nose, with 2 cutting edges, multicocoated. For hardened steels > 52 HRC.

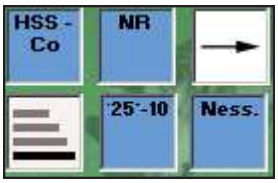


Fresa per sgrossatura, HSS-Co, codolo conico
HSS-Co taper shank roughing cutter

Art. 14139 fraisa

Cod. Fornitore: **2660...**
Manufacturer code: **2660...**





ART. 14139					
Dati tecnici / Technical data					
cod. code	d [mm]	l2 [mm]	l1 [mm]	codolo shank	z
14139257	**12**	53	123	CM1	4
14139289	**14**	53	138	CM2	4
14139321	**16**	63	148	CM2	4
14139385	**20**	75	160	CM2	4
14139417	**22**	75	160	CM2	4
14139449	**24**	90	192	CM3	4
14139513	**28**	90	192	CM3	4
14139609	**36**	106	231	CM4	5
14139641	**40**	125	250	CM4	6
14139673	**45**	125	250	CM4	6

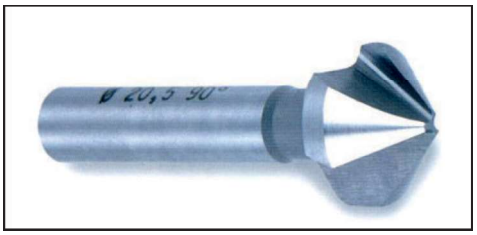
Descrizione:
Fresa per sgrossatura, HSS-Co, codolo conico.
Articolo ad esaurimento.

HSS-Co taper shank roughing cutter.
Exhaustion of this item in stock.

www.gnuttibortolo.com
IL RISPARMIO DI TEMPO
E DI COSTI
PER LE TUE SOLUZIONI DI LAVORO

Fresa a svasare a 60°, HSS-Co
HSS-Co countersink cutter 60°

Art. 14157 GnuBo



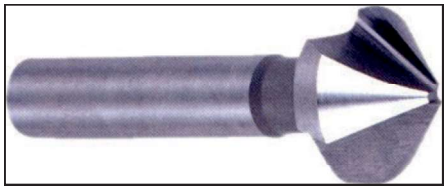
ART. 14157					
Dati tecnici / Technical data					
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. min min. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. tot. total length [mm]
14157123	**10,4**	M 5	2,5	6	50
14157145	**16,5**	M 8	3,2	10	60
14157167	**20,5**	M 10	3,5	10	63
14157189	**25,0**	M 12	3,8	10	67

Descrizione:
Fresa a 3 taglienti per svasature a 60° di fori, DIN 334/C 60°, HSS-Co. Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

HSS-Co cutter with 3 cutting edges for 60° countersinks, DIN 334/C 60°. To use on the greater part of ferrous and non ferrous metals.

Fresa a svasare a 90°, HSS-Co
HSS-Co countersink cutter 90°

Art. 14166 GnuBo



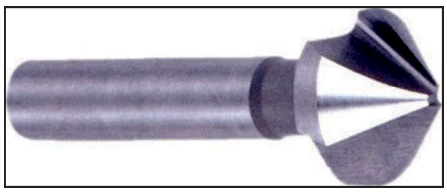
ART. 14166					
Dati tecnici / Technical data					
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. min min. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. tot. total length [mm]
14166087	**5,3**		1,5	4	40
14166105	**5,8**		1,5	5	45
14166123	**6,3**	M 3	1,5	5	45
14166130	**8,0**		2	6	50
14166141	**8,3**	M 4	2	6	50
14166159	**10,4**	M 5	2,5	6	50
14166165	**11,5**		2,8	8	56
14166177	**12,4**	M 6	2,8	8	56
14166195	**16,5**	M 8	3,2	10	60
14166213	**20,5**	M 10	3,5	10	63
14166231	**25,0**	M 12	3,8	10	67
14166240	**28,0**	M 14	4	12	71
14166249	**31,0**	M 16	4,2	12	71

Descrizione:
Fresa a 3 taglienti per svasature a 90° per sedi di viti a norma DIN 1866, DIN 335/C 90°, HSS-Co. Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

HSS-Co cutter with 3 cutting edges for 90° countersunk-headed screws according to DIN 1866, DIN 335/C 90°. To use on the greater part of ferrous and non ferrous metals.

Fresa a svasare a 90°, HSS-Co, rivestita TiAlN
HSS-Co countersink cutter 90°, TiAlN coated

Art. 14172 GnuBo



ART. 14172					
Dati tecnici / Technical data					
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. min min. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. tot. total length [mm]
14172083	**8,3**	M 4	2	6	50
14172104	**10,4**	M 5	2,5	6	50
14172124	**12,4**	M 6	2,8	8	56
14172165	**16,5**	M 8	3,2	10	60
14172205	**20,5**	M 10	3,5	10	63
14172250	**25,0**	M 12	3,8	10	67
14172280	**28,0**	M 14	4	12	71
14172310	**31,0**	M 16	4,2	12	71

Descrizione:
Fresa a 3 taglienti per svasature a 90° per sedi di viti a norma DIN 1866, DIN 335/C 90°, HSS-Co rivestita TiAlN. Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

TiAlN coated HSS-Co cutter with 3 cutting edges for 90° countersunk-headed screws according to DIN 1866, DIN 335/C 90°. To use on the greater part of ferrous and non ferrous metals.

Fresa a svasare a 90°, HSS-Co, codolo conico
HSS-Co taper shank countersink cutter 90°

Art. 14184 GnuBo

ART. 14184				
Dati tecnici / Technical data				
cod. code	diam. nominale nominal diam. [mm]	diam. min min. diam. [mm]	cono Morse Morse shaft	lungh. tot. total length [mm]
14184271	**37**	4,8	2	120

Descrizione:
Fresa a 3 taglienti per svasature a 90° per sedi di viti a norma DIN 1866, DIN 335/D 90°, HSS-Co, codolo conico. Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

HSS-Co taper shank cutter with 3 cutting edges for 90° countersunk-headed screws according to DIN 1866, DIN 335/C 90°. To use on the greater part of ferrous and non ferrous metals.

Fresa a sbavare a 60° con foro, HSS-Co
HSS-Co deburring cutter 60° with hole

Cod. Fornitore: **72.60...**
Manufacturer code: **72.60...**

Art. 14202 polledri

ART. 14202				
Dati tecnici / Technical data				
cod. code	diam. nominale nominal diam. [mm]	capacità capacity [mm]	diam. gambo shaft diam. [mm]	lungh. tot. total length [mm]
14202167	**14**	4 - 14	8	56
14202189	**21**	6 - 21	10	71
14202211	**28**	8 - 28	12	90

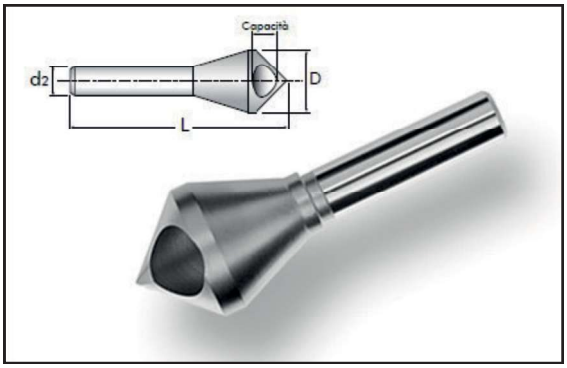
Descrizione:
Fresa a sbavare a 60° con foro, HSS-Co, con trattamento termico antigrippante.

HSS-Co deburring cutter 60° with hole, with anti-seizing heat treating.

Fresa a sbavare a 90° con foro, HSS-Co
HSS-Co deburring cutter 90° with hole

Art. 14211 polledri

Cod. Fornitore: **72.90...**
Manufacturer code: **72.90...**



ART. 14211				
Dati tecnici / Technical data				
cod. code	D z9 [mm]	capacità capacity [mm]	d2 h9 [mm]	L [mm]
14211123	**10**	4 - 9	6	45
14211167	**15**	6 - 14	8	55
14211189	**20**	8 - 18	10	65
14211211	**30**	12 - 28	12	78
14211233	**35**	12 - 35	15	112

Descrizione:
Fresa a sbavare a 90° con foro, HSS-Co, con trattamento termico antigrippante.

HSS-Co deburring cutter 90° with hole, with anti-seizing heat treating.

Fresa a sbavare a 90° con foro, HSS-Co, codolo conico
HSS-Co taper shank deburring cutter 90° with hole

Art. 14220 polledri

Cod. Fornitore: **73.90.400**
Manufacturer code: **73.90.400**

Descrizione:
Fresa a sbavare a 90° con foro, HSS-Co, con trattamento termico antigrippante, codolo conico.

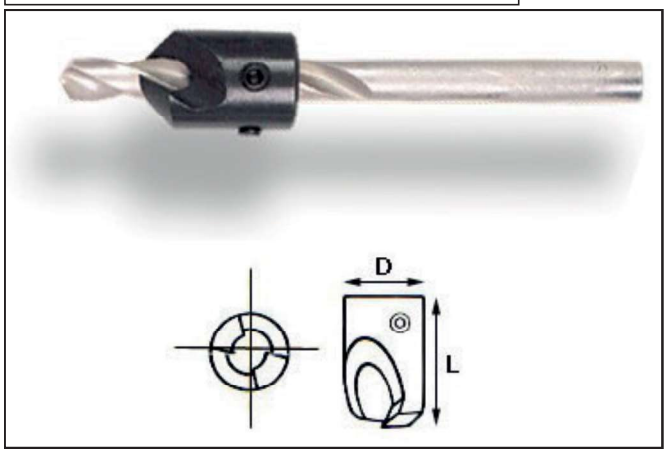
HSS-Co taper shank deburring cutter 90° with hole, with anti-seizing heat treating.

ART. 14220				
Dati tecnici / Technical data				
cod. code	diam. nominale nominal diam. [mm]	capacità capacity [mm]	cono Morse Morse shaft	lungh. tot. total length [mm]
14220255	**40**	16 - 40	3	176

Utensilpunta a svasare 90° HSS
HSS countersink 90° for drills

Cod. Fornitore: **85...**
Manufacturer code: **85...**

Art. 14229 polledri



ART. 14229			
Dati tecnici / Technical data			
**: articolo ad esaurimento* **: exhaustion of this item in stock*			
cod. code	diam. D diam. D [mm]	diam. punta drill's diam. [mm]	lunghezza L length L [mm]
14229067	**9**	3	15
14229078	**9**	3,3	15
14229085	**9**	3,5	15
14229103	**10**	4	17
14229110	**10**	4,2	17
14229121	**12**	5	19
14229139	**12**	5,5	19
14229157	**14**	6	22
14229175	**14**	6,5	22
14229186	**14**	6,8	22
14229193	**15**	7	24
14229202	**15**	7,5	24
14229211	**17**	8	26
14229229	**17**	8,5	26
14229247	**19**	9	28
14229265	**19**	9,5	28
14229283	**19**	9,8	28
14229301	**20**	10	30
14229319	**20**	10,5	30
14229337	**23**	11	32
14229355	**23**	11,5	32
14229373	**23**	12	32
14229427*	**28**	15	38
14229445*	**30**	18	40
14229463*	**37**	22	48
14229481*	**40**	24	50

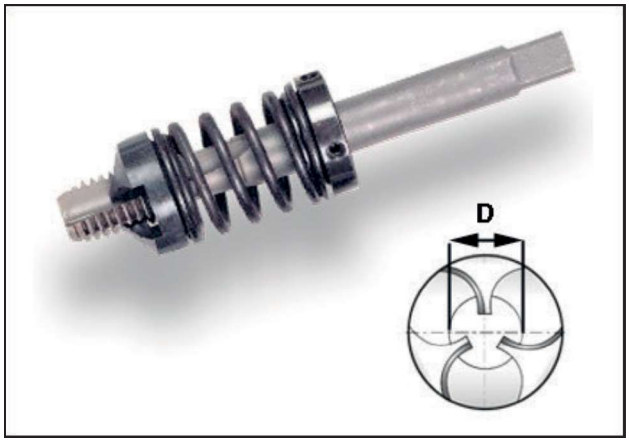
Descrizione:
Utensile svasatore a 90° in HSS da montare sulle punte per eseguire svasature, contemporaneamente alla foratura. Adatto su punte del tipo N con diametro da mm 3 a mm 30 con codolo cilindrico DIN 338/N e cono morse DIN 345/N. Viene fissato alla punta stessa con due viti che lavorano sul dorso della punta e una centrale che funge da trascinatore. Cod. 481 articolo ad esaurimento.

HSS countersink 90° to fix on drills to drill and countersink simultaneous. Suitable for drills N kind within the range from diameter mm 3 to mm 30 with cylindrical shank DIN 338/N and morse taper DIN 345/N. Fixed on the drill by two screw on its back and one in centre as dragger.

Svasatore per maschi a 120°, HSS
HSS countersink 120° for taps

Cod. Fornitore: **80.31...**
Manufacturer code: **80.31...**

Art. 14238 polledri



ART. 14238			
Dati tecnici / Technical data			
cod. code	diam. nominale nominal diam. [mm]	per maschi for taps	diam. gambo maschio D tap's shaft diam. D [mm]
14238087	**9,5**	M 3	3,5
14238109	**9,5**	M 4	4,5
14238131	**9,5**	M 5	6
14238153	**13,0**	M 6	6
14238175	**14,5**	M 8	8
14238197	**17,0**	M 10	10

Descrizione:
Utensile svasatore a 120° da montare sui maschi per eseguire svasature su fori maschiati, contemporaneamente alla maschiatura. Adatto su maschi a 3 scanalature del tipo dritto ed elicoidale fino a 15° da M3 a M10 (M2 su richiesta), con gambo rinforzato DIN371; non adatto per maschi con imbocco corretto. L'utensile si compone di tre parti: un fondello, una molla e una testina, il fondello viene fissato con 2 viti a 90° sul codulo del maschio in modo tale che la molla non si comprima del tutto: l'utensile esegue la svasatura quando il maschio inverte la rotazione per uscire.

HSS countersink 120° to fix on taps for threading and bevelling in one operation. Suitable on taps with 3 grooves, straight and helicoidal to 15° from M3 to M10 (M2 on request), with cylindrical shank DIN 371; not suitable on taps with spiral point. This tool is formed from 3 parts: one ring, one spring and one head, the ring is fixed with 2 screws at 90° degree on the shank of the tap in the correct position so that when the tool works the spring is not all compressed; the countersink works when the tap invert the rotation to go out.

Fresa per sedi di viti a testa cilindrica, HSS-Co
HSS-Co counterbore for cheese-headed screws

Art. 14267 GnuBo

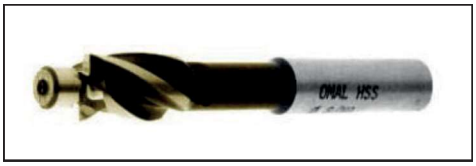
ART. 14267						
Dati tecnici / Technical data						
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. guida drive. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. taglienti flutes length [mm]	lungh. tot. total length [mm]
14267087	**5,9**	M 3	3,2	6	14	71
14267109	**7,4**	M 4	4,3	6	14	71
14267131	**8,9**	M 5	5,3	8	18	80
14267153	**10,4**	M 6	6,4	8	18	80
14267175	**13,5**	M 8	8,4	12	22	100
14267197	**16,5**	M 10	10,5	12	22	100
14267219	**19,0**	M 12	13	12	22	100

Descrizione:
Fresa per sedi di viti a testa cilindrica, DIN 373, HSS-Co.Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

HSS-Co counterbore for cheese-headed screws, DIN 373. To use on the greater part of ferrous and non ferrous metals.

Fresa per sedi di viti a testa cilindrica, HSS-Co, rivestita TiN
HSS-Co counterbore for cheese-headed screws, TiN coated

Art. 14279 GnuBo



ART. 14279						
Dati tecnici / Technical data						
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. guida drive. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. taglienti flutes length [mm]	lungh. tot. total length [mm]
14279087	**5,9**	M 3	3,2	6	14	71
14279109	**7,4**	M 4	4,3	6	14	71
14279131	**8,9**	M 5	5,3	8	18	80
14279153	**10,4**	M 6	6,4	8	18	80
14279175	**13,5**	M 8	8,4	12	22	100
14279197	**16,5**	M 10	10,5	12	22	100
14279219	**19,0**	M 12	13	12	22	100

Descrizione:
Fresa per sedi di viti a testa cilindrica, DIN 373, HSS-Co rivestita TiN.Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

TiN coated HSS-Co counterbore for cheese-headed screws, DIN 373. To use on the greater part of ferrous and non ferrous metals.

Fresa per sedi di viti a testa cilindrica, HSS-Co, codolo conico
HSS-Co taper shank counterbore for cheese-headed screws

Art. 14291 GnuBo

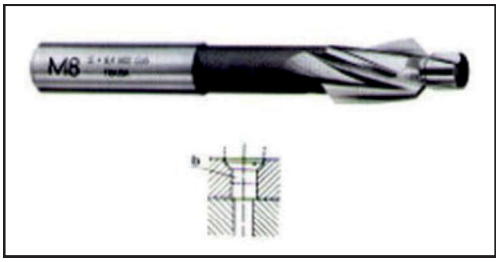
ART. 14291						
Dati tecnici / Technical data						
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. guida drive. diam. [mm]	cono Morse Morse shaft	lungh. taglienti flutes length [mm]	lungh. tot. total length [mm]
14291241	**22**	M 14	15	2	30	160
14291263	**25**	M 16	17	2	35	160
14291285	**28**	M 18	19	3	35	192
14291307	**31**	M 20	21	3	40	204
14291329	**36**	M 22	23	3	40	205
14291351	**40**	M 24	25	3	40	205

Descrizione:
Fresa per sedi di viti a testa cilindrica, HSS-Co codolo conico. Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

HSS-Co taper shank counterbore for cheese-headed screws. To use on the greater part of ferrous and non ferrous metals.

Fresa per sedi di viti a testa svasata a 90°, HSS-Co
HSS-Co counterbore for countersunk-headed screws 90°

Art. 14303 GnuBo



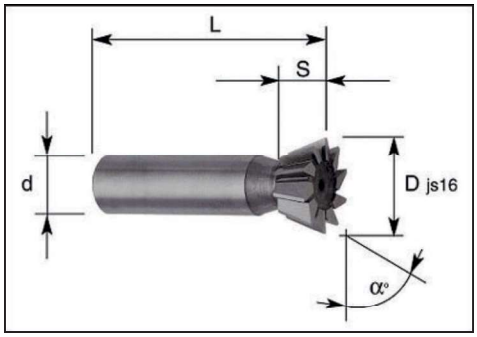
ART. 14303						
Dati tecnici / Technical data						
cod. code	diam. nominale nominal diam. [mm]	vite screw	diam. guida drive. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. taglienti flutes length [mm]	lungh. tot. total length [mm]
14303087	**6,3**	M 3	3,2	6	14	71
14303109	**8,3**	M 4	4,3	8	14	71
14303131	**10,4**	M 5	5,3	10	18	80
14303153	**12,4**	M 6	6,4	10	18	80
14303175	**16,5**	M 8	8,4	12	22	100
14303197	**20,5**	M 10	10,5	12	22	100

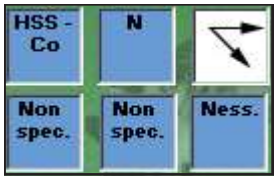
Descrizione:
Fresa per sedi di viti a testa svasata a 90° a norma DIN 1866, HSS-Co. Utilizzzabile sulla maggior parte dei materiali ferrosi e non ferrosi.

HSS-Co counterbore for countersunk-headed screws 90° according to DIN 1866. To use on the greater part of ferrous and non ferrous metals.

Fresa ad angolo divergente, HSS-Co
HSS-Co divergent angle cutter

Art. 14320 GnuBo





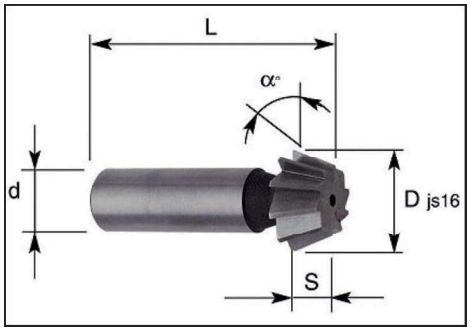
Descrizione:
Fresa ad angolo divergente, HSS-Co. UNI 8262A, DIN 1833A, ISO 3959.

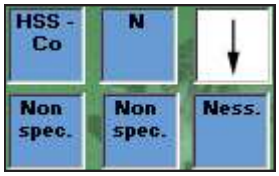
HSS-Co divergent angle

ART. 14320						
* : su richiesta/under request						
Dati tecnici / Tecnical data						
Cod.	Djs16	a°	Sjs14	L	dh6	Z
14320080	**16**	45	4	60	12	10
14320100	**20**	45	5	63	12	10
14320115	**25**	45	6,3	67	12	10
14320130	**32**	45	8	71	16	12
14320145	**16**	60	6,3	60	12	10
14320160	**20**	60	8	63	12	10
14320175	**25**	60	10	67	12	10
14320185	**32**	60	12,5	71	16	12
*	**16**	70	7	60	12	10
*	**20**	70	9	60	12	10
*	**25**	70	11	67	16	10

Fresa ad angolo convergente, HSS-Co
HSS-Co convergent angle cutter

Art. 14330 GnuBo





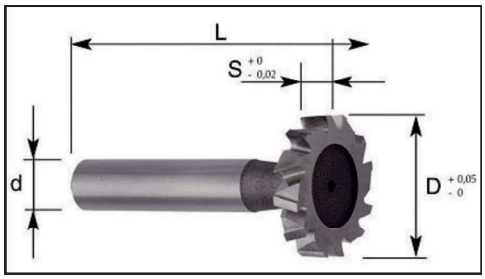
Descrizione:
Fresa ad angolo convergente, HSS-Co. UNI 8262B, DIN 1833B, ISO 3959.

HSS-Co convergent angle cutter. UNI 8262B, DIN 1833B, ISO 3959.

ART. 14330						
* : su richiesta/under request						
Dati tecnici / Tecnical data						
Cod.	Djs16	a°	Sjs14	L	dh6	Z
14330080	**16**	45	4	60	12	10
14330095	**20**	45	5	63	12	10
14330110	**25**	45	6,3	67	12	10
14330125	**32**	45	8	71	16	12
14330140	**16**	60	6,3	60	12	10
14330155	**20**	60	8	63	12	10
14330170	**25**	60	10	67	12	10
*	**32**	60	12,5	71	16	12
*	**16**	70	7	60	12	10
*	**20**	70	9	63	12	10
*	**25**	70	11	67	16	10

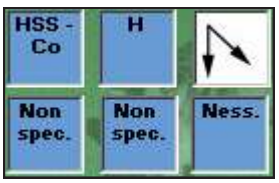
Fresa per scanalature Woodruff, HSS-Co
HSS-Co Woodruff keyseat cutter

Art. 14350 GnuBo



Descrizione:
Fresa per scanalature Woodruff, HSS-Co. UNI 8263, DIN 850B.

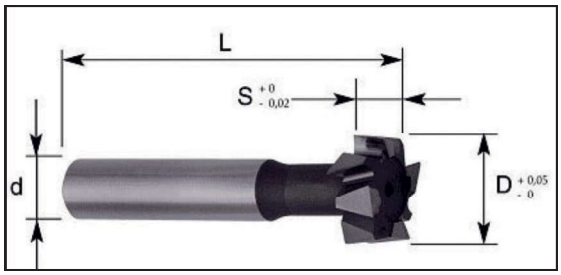
HSS-Co Woodruff keyseat cutter. UNI 8263, DIN 850B.



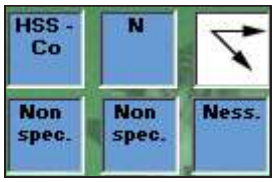
ART. 14350						
* : su richiesta/under request						
Dati tecnici / Technical data						
Cod.	D	S 0/-0,02	L	dh6	l°	Z
14350080	**10,5**	2	50	6	13	8
*	**10,5**	2,5	50	6	13	8
14350095	**10,5**	3	50	6	13	8
14350110	**13,5**	2	56	10	15	8
14350125	**13,5**	3	56	10	15	8
14350140	**13,5**	4	56	10	15	8
14350155	**16,5**	3	56	10	15	8
14350170	**16,5**	4	56	10	15	8
14350185	**16,5**	5	56	10	15	8
*	**16,5**	6	56	10	15	8
14350200	**19,5**	3	63	10	15	10
14350215	**19,5**	4	63	10	15	10
14350230	**19,5**	5	63	10	15	10
14350245	**19,5**	6	63	10	15	10
14350260	**22,5**	4	63	10	13	10
14350275	**22,5**	5	63	10	13	10
14350290	**22,5**	6	63	10	13	10
14350305	**22,5**	8	63	10	13	10
14350320	**25,5**	5	63	10	15	12
14350335	**25,5**	6	63	10	15	12
*	**25,5**	7	63	10	15	12
*	**25,5**	8	63	10	15	12
14350350	**28,5**	6	63	10	13	12
*	**28,5**	7	63	10	13	12
14350365	**28,5**	8	63	10	13	12
14350380	**28,5**	10	71	12	13	12
14350395	**32,5**	6	71	12	15	12
14350410	**32,5**	7	71	12	15	12
14350425	**32,5**	8	71	12	15	12
14350440	**32,5**	10	71	12	15	12
14350455	**45,5**	10	71	12	13	12

Fresa per scanalature a T, HSS-Co
HSS-Co T slot cutter

Art. 14360 GnuBo



ART. 14360						
* : su richiesta/under request						
Dati tecnici / Technical data						
Cod.	D	S 0/-0,02	L	dh6	l°	Z
14360080	**12,5**	6	57	10	12	6
14360095	**16**	8	62	10	12	6
14360110	**18**	8	70	12	15	6
*	**19**	9	70	12	15	8
14360125	**21**	9	74	12	15	8
*	**22**	10	74	12	15	8
14360140	**25**	11	82	16	15	8
*	**28**	12	85	16	15	8
14360155	**32**	14	90	16	15	8

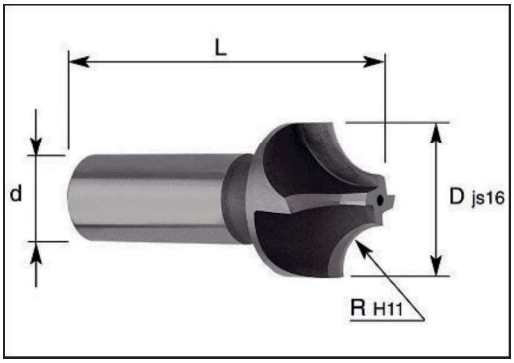


Descrizione:
Fresa per scanalature a T, HSS-Co. UNI 7339A, DIN 851, ISO 3337.

HSS-Co T slot cutter. UNI 7339A, DIN 851, ISO 3337.

Fresa ad un quarto di cerchio concavo, HSS-Co
HSS-Co corner-rounding cutter

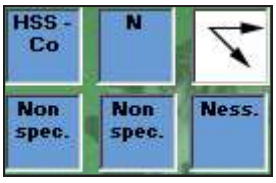
Art. 14370 GnuBo



ART. 14370					
* : su richiesta/under request					
Dati tecnici / Technical data					
Cod.	RH11	Djs16	L	dh6	Z
14370010	**1**	10	60	10	4
14370015	**1,5**	10	60	10	4
14370020	**2**	10	60	10	4
14370025	**2,5**	10	60	10	4
14370030	**3**	12	60	12	4
14370040	**4**	15	60	12	4
14370050	**5**	18	70	16	4
14370060	**6**	21	70	16	4
14370070	**7**	24	70	16	4
14370080	**8**	24	70	16	4
14370090	**9**	28	85	20	4
*	**9**	28	85	25	4
14370100	**10**	28	85	20	4
*	**10**	28	85	25	4
*	**11**	35	90	20	4
*	**11**	35	90	25	4
14370120	**12**	35	100	20	4
*	**12**	35	100	25	4
14370125	**12,5**	35	100	20	4
*	**12,5**	35	100	25	4
*	**13**	42	100	25	4
14370140	**14**	42	100	25	4
14370150	**15**	48	105	25	5
14370160	**16**	48	105	25	5
*	**18**	52	115	32	5
*	**20**	60	115	32	6

Descrizione:
Fresa ad un quarto di cerchio concavo, HSS-Co. UNI 8264, DIN 6518A.

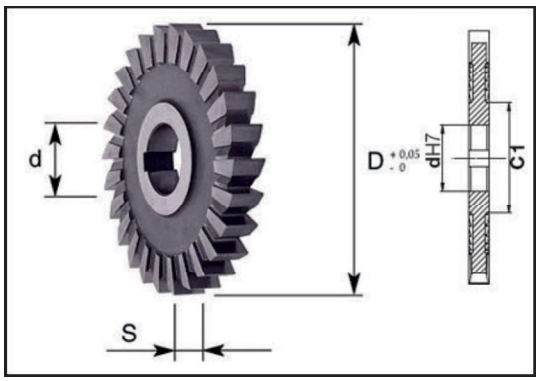
HSS-Co corner-rounding cutter. UNI 8264, DIN 6518A.



ARMADI-CASSETTIERE-BANCHI DI LAVORO
CARRELLI-TRANSPALLETS..
TUTTO QUESTO ED ALTRO ANCORA
su www.gnuttibortolo.com nella sezione
ATTREZZATURE

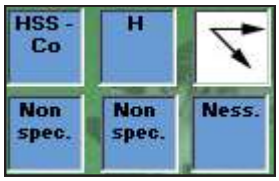
Fresa a 3 tagli a denti dritti, HSS-Co
HSS-Co straight-toothed side cutter

Art. 14420 GnuBo



Descrizione:
Fresa a 3 tagli a denti dritti, HSS-Co.
UNI 3905B, DIN 885B, ISO 2587.

HSS-Co straight-toothed side cutter.
UNI 3905B, DIN 885B, ISO 2587.



ART. 14420

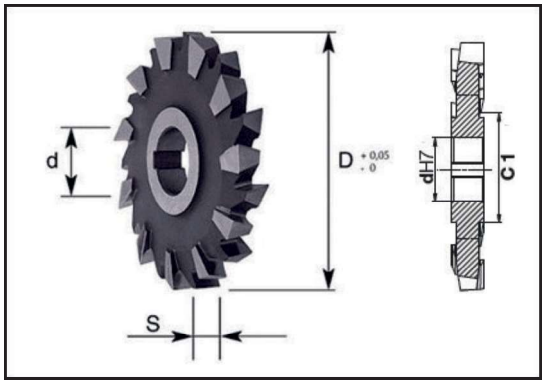
*** : su richiesta/under request**

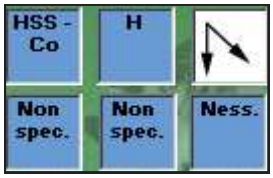
Dati tecnici / Tecnical data

Cod. code	D +0,05 -0 [mm]	S k11 [mm]	C1 [mm]	d H7 [mm]	Z	Cod. code	D +0,05 -0 [mm]	S k11 [mm]	C1 [mm]	d H7 [mm]	Z	Cod. code	D +0,05 -0 [mm]	S k11 [mm]	C1 [mm]	d H7 [mm]	Z
14420080	**50**	4	26	16	20	*	**100**	4	46	27	26	*	**160**	6	66	40	40
14420095	**50**	5	26	16	20	*	**100**	4	50	32	26	*	**160**	8	58	32	36
14420110	**50**	6	26	16	20	*	**100**	5	46	27	26	*	**160**	8	66	40	36
*	**50**	7	26	16	18	*	**100**	5	50	32	26	*	**160**	10	58	32	36
14420125	**50**	8	26	16	18	14420290	**100**	6	46	27	24	*	**160**	10	66	40	36
*	**50**	9	26	16	18	*	**100**	6	50	32	24	*	**160**	12	58	32	36
14420140	**50**	10	26	16	18	*	**100**	7	46	27	24	*	**160**	12	66	40	36
14420155	**63**	4	33	22	20	*	**100**	7	50	32	24	*	**160**	14	58	32	36
*	**63**	5	33	22	20	14420305	**100**	8	46	27	22	*	**160**	14	66	40	36
14420170	**63**	6	33	22	20	*	**100**	8	50	32	22	*	**160**	16	58	32	36
*	**63**	7	33	22	20	*	**100**	9	46	27	22	*	**160**	16	66	40	36
14420185	**63**	8	33	22	20	*	**100**	9	50	32	22	*	**160**	18	58	32	34
*	**63**	9	33	22	20	14420320	**100**	10	46	27	22	*	**160**	18	66	40	34
14420192	**63**	10	33	22	18	*	**100**	10	50	32	22	*	**160**	20	58	32	34
14420200	**63**	12	33	22	18	14420335	**100**	12	46	27	22	*	**160**	20	66	40	34
*	**63**	14	33	22	18	*	**100**	12	50	32	22	*	**160**	22	58	32	34
*	**63**	16	33	22	18	*	**100**	14	46	27	22	*	**160**	22	66	40	34
*	**63**	18	33	22	18	*	**100**	14	50	32	22	*	**160**	25	58	32	34
*	**63**	20	33	22	18	*	**100**	15	46	27	22	*	**160**	25	66	40	34
*	**80**	4	36	22	24	*	**100**	15	50	32	22	*	**160**	28	58	32	34
*	**80**	4	40	27	24	*	**100**	16	46	27	22	*	**160**	28	66	40	34
14420215	**80**	5	36	22	24	*	**100**	16	50	32	22	*	**160**	32	58	32	34
*	**80**	5	40	27	24	*	**100**	18	46	27	22	*	**160**	32	66	40	34
14420230	**80**	6	36	22	24	*	**100**	18	50	32	22	*	**200**	8	80	40	42
*	**80**	6	40	27	24	*	**100**	20	46	27	20	*	**200**	10	80	40	40
*	**80**	7	36	22	22	*	**100**	20	50	32	20	*	**200**	12	80	40	40
*	**80**	7	40	27	22	*	**100**	22	46	27	20	*	**200**	14	80	40	40
14420245	**80**	8	36	22	22	*	**100**	22	50	32	20	*	**200**	16	80	40	38
*	**80**	8	40	27	22	*	**100**	25	46	27	20	*	**200**	18	80	40	38
*	**80**	9	36	22	22	*	**100**	25	50	32	20	*	**200**	20	80	40	38
*	**80**	9	40	27	22	*	**125**	5	52	32	30	*	**200**	22	80	40	38
*	**80**	10	40	27	20	*	**125**	6	52	32	30	*	**200**	25	80	40	38
14420275	**80**	12	36	22	20	*	**125**	8	52	32	28	*	**200**	28	80	40	38
*	**80**	12	40	27	20	*	**125**	10	52	32	28	*	**200**	32	80	40	38
*	**80**	14	36	22	20	*	**125**	12	52	32	28	*	**250**	14	90	50	46
*	**80**	14	40	27	20	*	**125**	14	52	32	26	*	**250**	16	90	50	46
*	**80**	16	36	22	20	*	**125**	16	52	32	26	*	**250**	18	90	50	46
*	**80**	16	40	27	20	*	**125**	18	52	32	26	*	**250**	20	90	50	46
*	**80**	18	36	22	20	*	**125**	20	52	32	26	*	**250**	25	90	50	46
*	**80**	18	40	27	20	*	**125**	22	52	32	26	*	**250**	28	90	50	46
*	**80**	20	36	22	20	*	**125**	25	52	32	26	*	**250**	30	90	50	46
*	**80**	20	40	27	20	*	**125**	28	52	32	26	*	**250**	32	90	50	46
						*	**160**	6	58	32	40						

Fresa a 3 tagli a denti elicoidali, HSS-Co
HSS-Co helical-toothed side cutter

Art. 14430 GnuBo





Descrizione:
Fresa a 3 tagli a denti elicoidali, HSS-Co.
UNI 3905A, DIN 885A, ISO 2587.

HSS-Co helical-toothed side cutter.
UNI 3905A, DIN 885A, ISO 2587.

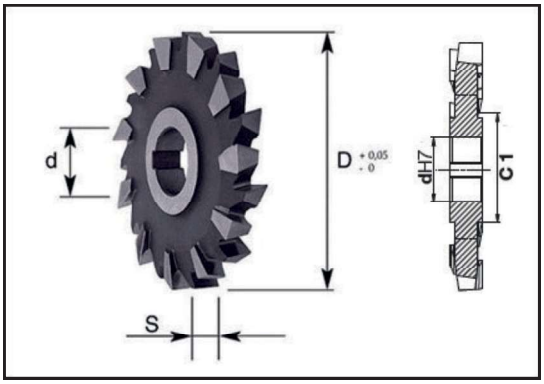
ART. 14430

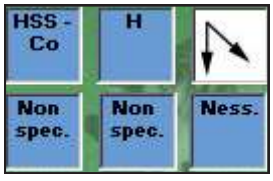
Dati tecnici / Technical data

Cod. code	D +0,05 -0 [mm]	S k11 [mm]	C1 [mm]	d H7 [mm]	λ°	Z
14430080	**50**	4	26	16	20	16
14430095	**50**	6	26	16	20	16
14430110	**50**	8	26	16	15	16
14430125	**50**	10	26	16	15	16
14430140	**63**	4	33	22	20	18
14430155	**63**	5	33	22	15	18
14430170	**63**	6	33	22	15	18
14430185	**63**	8	33	22	15	18
14430200	**63**	10	33	22	15	18
14430230	**80**	6	36	22	15	20
14430245	**80**	8	36	22	15	20
14430260	**80**	10	36	22	15	18
14430275	**80**	12	36	22	15	18
14430290	**80**	12	40	27	15	18
14430320	**80**	16	36	22	15	18
14430335	**80**	20	36	22	10	18
14430350	**100**	6	46	27	15	24
14430365	**100**	7	50	32	15	24
14430380	**100**	8	50	32	15	22
14430395	**100**	10	46	27	15	22
14430410	**100**	10	50	32	15	22
14430425	**100**	12	50	32	15	20
14430440	**125**	8	52	32	15	26
14430455	**125**	10	52	32	15	24
14430470	**125**	12	52	32	15	22
14430485	**125**	22	52	32	10	22

Fresa a 3 tagli a denti elicoidali, HSS-Co
HSS-Co helical-toothed side cutter

Art. 14432 GnuBo





ART. 14432

Dati tecnici / Technical data

Cod. code	D +0,05 -0 [mm]	S k11 [mm]	C1 [mm]	d H7 [mm]	λ°	Z
14432215	**63**	12	33	22	10	18
14432305	**80**	14	36	22	10	18

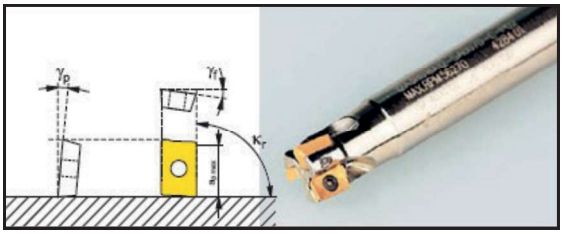
Descrizione:
Fresa a 3 tagli a denti elicoidali, HSS-Co.
UNI 3905A, DIN 885A, ISO 2587.

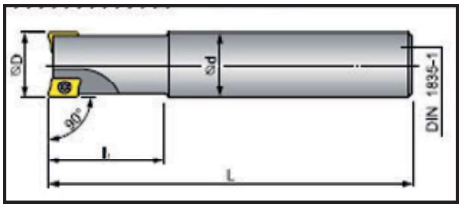
HSS-Co helical-toothed side cutter.
UNI 3905A, DIN 885A, ISO 2587.

Fresa ad inserti a candela SAD07D, 90°
End milling cutter with inserted teeth SAD07D, 90°

Art. 14524 IMPERO PRAMET

DORMER PRAMET





Descrizione:
Fresa ad inserti a candela SAD07D a spallamento retto 90°, con fori per refrigerazione interna. Codolo cilindrico DIN 1835-1.

End milling cutter with inserted teeth SAD07DE° with right shoulder 90°, with internal cooling holes. Cylindrical shank DIN 1835-1.

ART. 14524

Dati tecnici / Technical data

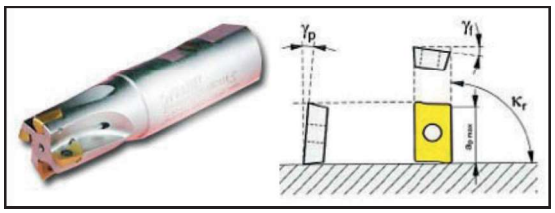
cod. code	codice ISO ISO code	D [mm]	L [mm]	l_1 [mm]	d [mm]	Z	inserti inserts	K_r	γ_p	γ_f	$a_{p\ max}$ [mm]	peso weight [kg]
14524102	**10A2R016A10-SAD07D-C**	10	80	16	10	2	ADMX 07 ...	90°	+8°	-6° ÷ -12°	6	0,04
14524123	**12A3R018A12-SAD07D-C**	12	90	18	12	3	ADMX 07 ...	90°				0,07

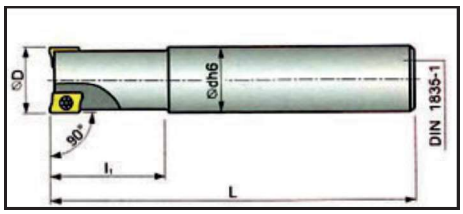
K_r	= angolo di registrazione / entering angle
γ_p	= angolo di spoglia assiale / axial rake
γ_f	= angolo di spoglia radiale / radial rake

Fresa ad inserti a candela SAD11E, 90°
End milling cutter with inserted teeth SAD11E, 90°

Art. 14527 IMPERO PRAMET

DORMER PRAMET





Descrizione:
Fresa ad inserti a candela SAD11E a spallamento retto 90°, con fori per refrigerazione interna. Codolo cilindrico DIN 1835-1.

End milling cutter with inserted teeth SAD11E° with right shoulder 90°, with internal cooling holes. Cylindrical shank DIN 1835-1.

ART. 14527

Dati tecnici / Technical data

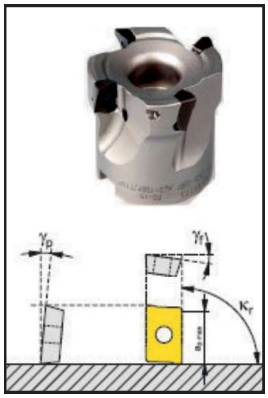
cod. code	codice ISO ISO code	D [mm]	L [mm]	l_1 [mm]	d h6 [mm]	Z	inserti inserts	K_r	γ_p	γ_f	$a_{p\ max}$ [mm]	peso weight [kg]
14527140	**16A2R024A14-SAD11E-C**	16	160	24	14	2	ADMX 11 ...	90°	+4° ÷ +8°	-9° ÷ -12,8°	9	0,2
14527160	**16A2R024A16-SAD11E-C**	16	135	24	16	2	ADMX 11 ...	90°				0,2
14527200	**20A3R029A20-SAD11E-C**	20	150	29	20	3	ADMX 11 ...	90°				0,3
14527252	**25A4R034A25-SAD11E-C**	25	170	34	25	4	ADMX 11 ...	90°				0,5

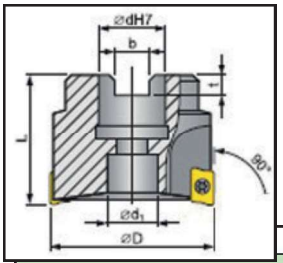
K_r	= angolo di registrazione / entering angle
γ_p	= angolo di spoglia assiale / axial rake
γ_f	= angolo di spoglia radiale / radial rake

Fresa ad inserti S90AD11E, 90°
Milling cutter with insertered teeth S90AD11E, 90°

Art. 14530 IMPERO PRAMET

DORMER PRAMET





Descrizione:
Fresa ad inserti S90AD11E a spallamento retto 90°, con fori per refrigerazione interna.

Shoulder milling cutter with insertered teeth SAD11E, 90°, with internal cooling holes.

ART. 14530

Dati tecnici / Technical data

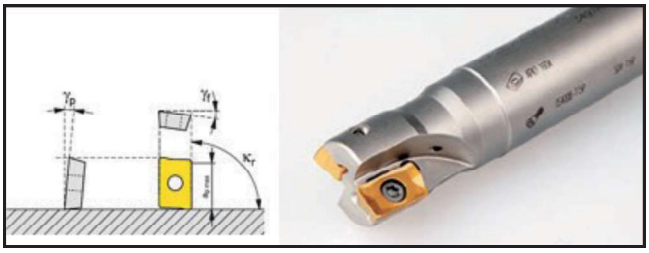
cod. code	codice ISO ISO code	D [mm]	d H7 [mm]	d_1 [mm]	L [mm]	b [mm]	t [mm]	Z	inserti inserts	K_r	γ_p	γ_f	$a_{p\ max}$ [mm]	peso weight [kg]
14530402	**40A06R-S90AD11E-C**	40	16	14	40	8,4	5,6	6	ADMX 11 ...	90°	+11° ÷ +12°	-5,2° ÷ -8,1°	9	0,2
14530502	**50A07R-S90AD11E-C**	50	22	18	40	10,4	6,3	7	ADMX 11 ...	90°				0,3

K_r	= angolo di registrazione / entering angle
γ_p	= angolo di spoglia assiale / axial rake
γ_f	= angolo di spoglia radiale / radial rake

Fresa ad inserti a candela SAD16E, 90°
End milling cutter with inserted teeth SAD16E, 90°

Art. 14533 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Fresa ad inserti a candela SAD16E a spallamento retto 90°, con fori per refrigerazione interna. Codolo cilindrico
DIN 1835-1.

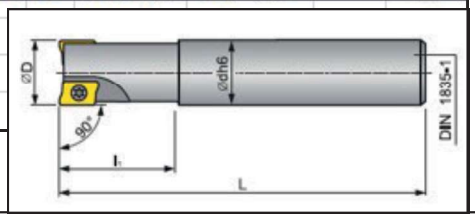
End milling cutter with inserted teeth SAD16E° with right shoulder 90°, with internal cooling holes. Cylindrical shank DIN 1835-1.

ART. 14533

Dati tecnici / Technical data

cod. code	codice ISO ISO code	D [mm]	L [mm]	l_1 [mm]	d h6 [mm]	Z	inserti inserts	K_r	γ_p	γ_f	$a_{p\ max}$ [mm]	peso weight [kg]
14533250	**25A2R033A25-SAD16E-C**	25	165	33	25	2	ADMX 16 ...	90°	+5° ÷ +10,5°	-8,2° ÷ -13°		0,5

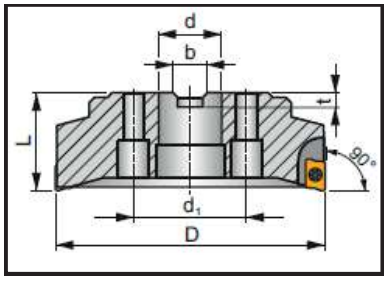
K_r	= angolo di registrazione / entering angle
γ_p	= angolo di spoglia assiale / axial rake
γ_f	= angolo di spoglia radiale / radial rake

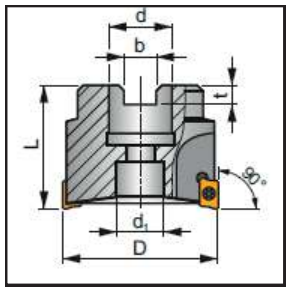


Fresa ad inserti S90AD16E, 90°
Milling cutter with insertered teeth S90AD16E, 90°

Art. 14535 IMPERO PRAMET

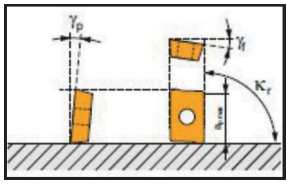
DORMER PRAMET





Descrizione:
Fresa ad inserti S90AD16E a spallamento retto 90°, con fori per refrigerazione interna.

Shoulder milling cutter with insertered teeth SAD16E, with right shoulder 90°, with internal cooling holes.



ART. 14535

Dati tecnici / Technical data

cod. code	codice ISO ISO code	D [mm]	d h7 [mm]	d_1 [mm]	L [mm]	b [mm]	t [mm]	Z	inserti inserts	K_r	γ_p	γ_f	$a_{p\ max}$ [mm]	peso weight [kg]
14535040	**40A04R-S90AD16E-C**	40	16	14	40	8,4	5,6	4	ADMX 16 ...	90°	+10,5° ÷ +12°	-3,8° ÷ -8,2°	13	0,2
14535052	**50A05R-S90AD16E-C**	50	22	18	40	10,4	6,3	5	ADMX 16 ...	90°				0,3

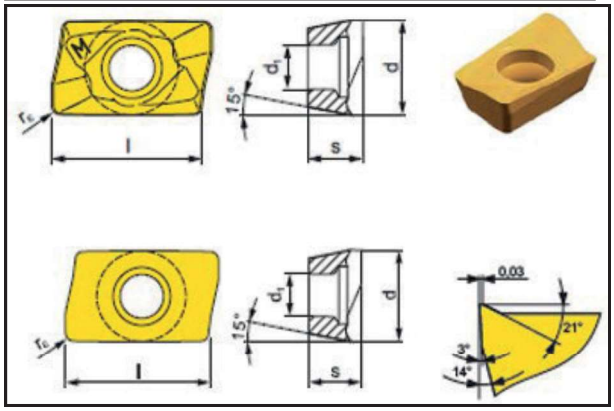
K_r	= angolo di registrazione / entering angle
γ_p	= angolo di spoglia assiale / axial rake
γ_f	= angolo di spoglia radiale / radial rake

TABELLA Qualità degli Inserti
Per Fresatura a pag. 165
Milling inserts Qualities TABLE
at page 165

Inserto ADMX-M M8340 per fresatura
Insert ADMX-M M8340 for milling

Art. 14636 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-M per fresatura. Geometria fortemente positiva per medio -finitura con condizioni di lavoro medie e leggere sui materiali dei gruppi P e M, applicazione secondaria K e supplementare S. Rivestimento PVD M8340, applicazione principale classe ISO P35, M30 e S35, secondaria K30, H20.

Insert ADMX-M for milling. Very positive geometry for medium-finishing with light and medium machining conditions on material groups P and M, secondary application K and supplementary S. Coating PVD M8340, main application class ISO P35, M30, S35, secondary K30, H20.

Art. 14636

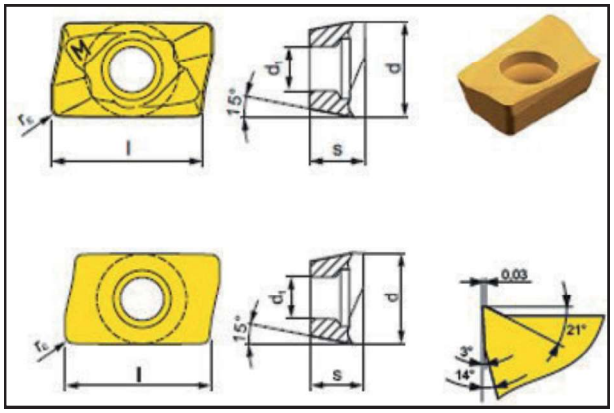
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	a_p [mm]	f [mm/giro]
14636704	**ADMX 070204SR-M**	6,95	4,482	2,2	2,48	0,4	0,4 - 5,0	0,30 - 0,12

Inserto ADMX-M 8215 per fresatura
Insert ADMX-M 8215 for milling

Art. 14638 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-M per fresatura. Geometria fortemente positiva per medio-finitura con condizioni di lavoro medie e leggere sui materiali dei gruppi P e M, applicazione secondaria K e supplementare S. Rivestimento PVD 8215, applicazione principale classe ISO K15 e H10, secondaria P10, M10, S15.

Insert ADMX-M for milling. Very positive geometry for medium-finishing with light and medium machining conditions on material groups P and M, secondary application K and supplementary S. Coating PVD 8215, main application classpplicazione principale ISO K15 and H10, secondary P10, M10, S15.

Art. 14638

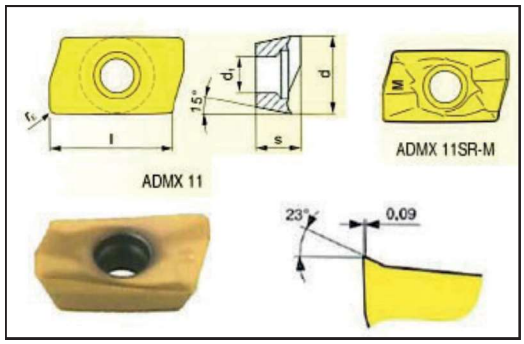
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	a_p [mm]	f [mm/giro]
14636804	**ADMX 070204SR-M**	6,95	4,482	2,2	2,48	0,4	0,4 - 5,0	0,30 - 0,12

Inserto ADMX-M 8230 per fresatura
Insert ADMX-M 8230 for milling

Art. 14643 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-M per fresatura. Geometria fortemente positiva con medio rinforzo per medio-finitura con condizioni di lavoro medie sui materiali dei gruppi P, M e K, applicazione secondaria S e supplementare N. Rivestimento PVD 8230, applicazione principale classe ISO P30, M25, K30, secondaria S20, H20.

ADMX-M positive-rake insert with hole for milling. High positive geometry with medium reinforcement for medium-finishing machining conditions on steel, inox steel and cast iron, suitable for all other metals except group H. Coating PVD 8230, class ISO P30, M25, K30.

Art. 14643

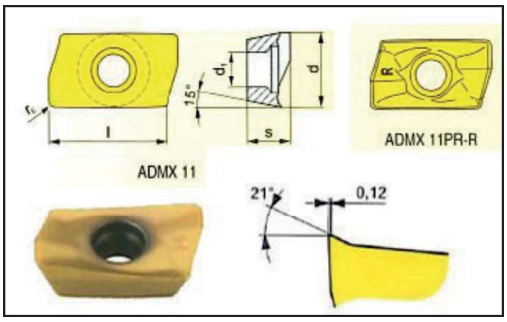
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	s [mm]	d_1 [mm]	r_ε [mm]	a_p [mm]	f [mm/giro]
14643108	**ADMX 11T308SR-M**	11	6,53	3,97	2,9	0,8	1,0 - 9,0	0,10 - 0,18

Inserto ADMX-R M5315 per fresatura
Insert ADMX-R M5315 for milling

Art. 14644 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-R per fresatura. Geometria positiva con doppio rinforzo adatta anche a condizioni di lavoro poco stabili per i gruppi di materiali P e K, applicazione secondaria M, S, H. Rivestimento CVD M5315, applicazione principale classe ISO K15, H15, secondaria P15.

Insert ADMX-R for milling. Positive geometry with a double T-land suitable also to less stable working conditions for material groups P and K, secondary application M, S, H. Coating CVD M5315, main application class ISO K15, H15, secondary P15.

Art. 14644

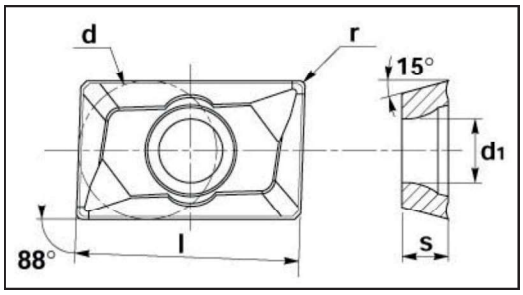
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	s [mm]	d_1 [mm]	r_ε [mm]	a_p [mm]	f [mm/giro]
14644108	**ADMX 11T308PR-R**	11	6,53	3,97	2,9	0,8	1,0 - 9,0	0,15 - 0,25

Inserto ADMX-21 positivo con foro per fresatura, KR5020
ADMX-21 positive-rake insert with hole for milling, KR5020

Art. 14658 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-21 positivo con foro per fresatura. Rivestitmento PVD KR5020, classe ISO P20, M15, S15.

ADMX-21 positive-rake insert with hole for milling. Coating PVD KR5020, class ISO P20, M15, S15.

Art. 14658

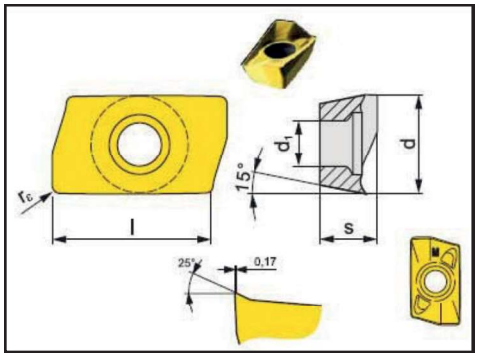
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	s [mm]	d_1 [mm]	m [mm]	r [mm]
14658308	**ADMX 150308ER-21**	15	9,525	3,18	4,4	5,75	0,8

Inserto ADMX-M M9325 per fresatura
Insert ADMX-M M9325 for milling

Art. 14662 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-M per fresatura. Geometria fortemente positiva con medio rinforzo per medio-finitura con condizioni di lavoro medie sui materiali dei gruppi P, M e K, applicazione secondaria S. Rivestimento CVD M9325, applicazione principale classe ISO P20, secondaria M15, S10.

Insert ADMX-M for milling. Very positive geometry with a medium peripheral chamfered edge for medium-finishing with light and medium machining conditions on material groups P, M and K, secondary application S. Coating CVD M9325, main application class ISO P20, secondary M15, S20.

Art. 14662

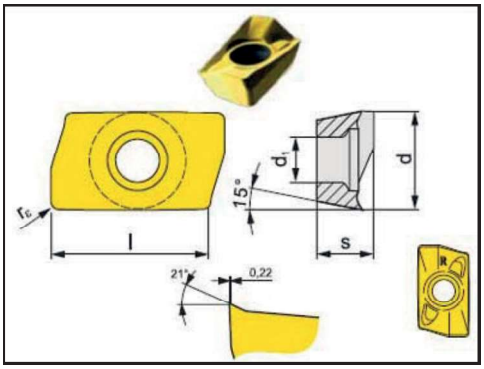
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	a_p [mm]	f [mm/giro]
14662108	**ADMX 160608SR-M**	16	9,95	4,5	6,25	0,8	1,0 - 13	0,10 - 0,25
14662116	**ADMX 160616SR-M**	16	9,95	4,5	6,25	1,6	0,3 - 13	0,10 - 0,24

Inserto ADMX-R 8215 per fresatura
Insert ADMX-R 8215 for milling

Art. 14665 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Inserto ADMX-R per fresatura. Geometria positiva con doppio rinforzo adatta anche a condizioni di lavoro poco stabili per i gruppi di materiali P e K, applicazione secondaria M, S, H. Rivestimento PVD 8215, applicazione principale classe ISO K15 e H10, secondaria P10, M10, S15.

Insert ADMX-R for milling. Positive geometry with a double T-land suitable also to less stable working conditions for material groups P and K, secondary application M, S, H. Coating PVD 8230, main application class ISO K15 and H10, secondary P10, M10, S15.

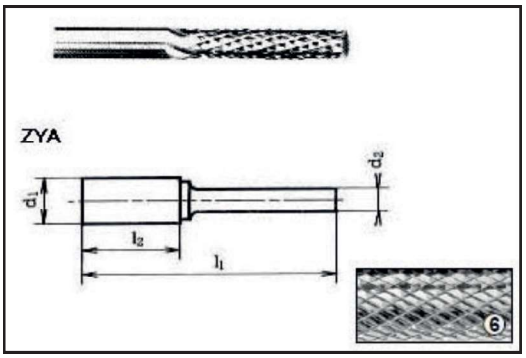
Art. 14665

Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	a_p [mm]	f [mm/giro]
14665108	**ADMX 160608PR-R**	16	9,95	4,5	6,25	0,8	1,0 - 13,0	0,17 - 0,35

Fresa rotativa cilindrica ZYA, HM, gambo mm 3
HM cylindrical bur ZYA, shaft mm 3

Art. 15122 GnuBo



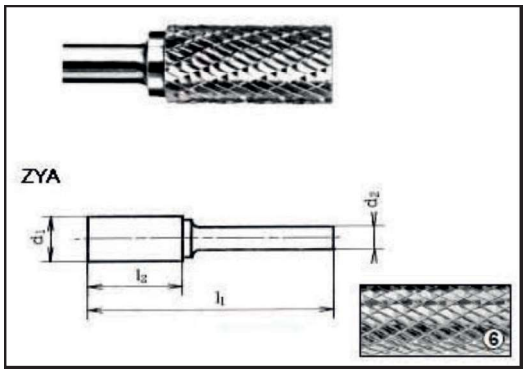
Descrizione:
Fresa rotativa ZYA a forma cilindrica (senza taglienti sulla superficie frontale), HM. Gambo mm 3, tagliente 6 universale.

HM cylindrical burr ZYA (without face cutting edges). Shaft mm 3, universal cut 6.

Art. 15122				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**1,5**	3	8	40
15122123	**2**	3	10	40
*	**2,5**	3	12	40
15122145	**3**	3	14	40
15122167	**4**	3	10	45
15122189	**5**	3	12	47
15122211	**6**	3	14	49

Fresa rotativa cilindrica ZYA, HM, gambo mm 6
HM cylindrical burr ZYA, shaft mm 6

Art. 15132 GnuBo



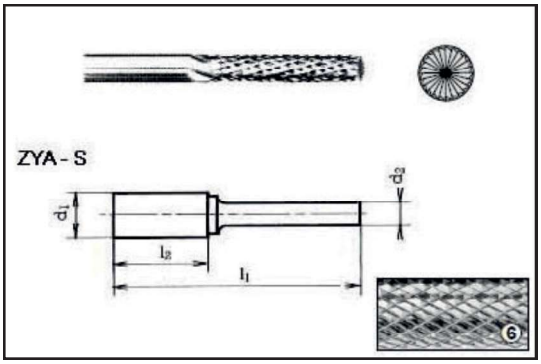
Descrizione:
Fresa rotativa ZYA a forma cilindrica (senza taglienti sulla superficie frontale), HM. Gambo mm 6, tagliente 6 universal.

HM cylindrical burr ZYA (without face cutting edges). Shaft mm 6, universal cut 6.

Art. 15132				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15132167	**4**	6	14	50
15132211	**6**	6	18	50
15132233	**8**	6	18	63
15132277	**10**	6	20	65
15132299	**12**	6	25	70
*	**16**	6	25	70
*	**20**	6	25	70

Fresa rotativa cilindrico-frontale ZYA-S, HM, gambo mm 3
HM cylindrical and face burr ZYA-S, shaft mm 3

Art. 15142 GnuBo



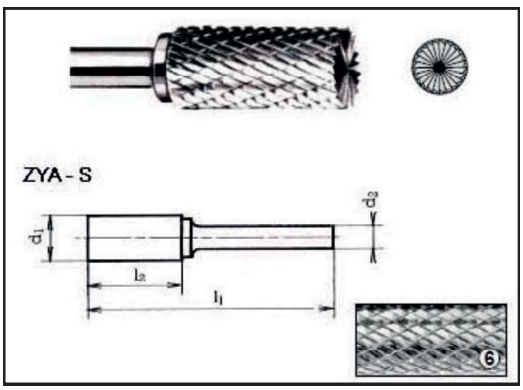
Descrizione:
Fresa rotativa ZYA-S a forma cilindrico-frontale (con taglienti sulla superficie frontale), HM. Gambo mm 3, tagliente 6 universale.

HM cylindrical and face burr ZYA-S (with face cutting edges). Shaft mm 3, universal cut 6.

Art. 15142				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**1,5**	3	8	40
15142123	**2**	3	10	40
*	**2,5**	3	12	40
15142145	**3**	3	14	40
15142167	**4**	3	10	45
*	**5**	3	12	47
*	**6**	3	14	49

Fresa rotativa cilindrico-frontale ZYA-S, HM, gambo mm 6
HM cylindrical and face burr ZYA-S, shaft mm 6

Art. 15152 GnuBo



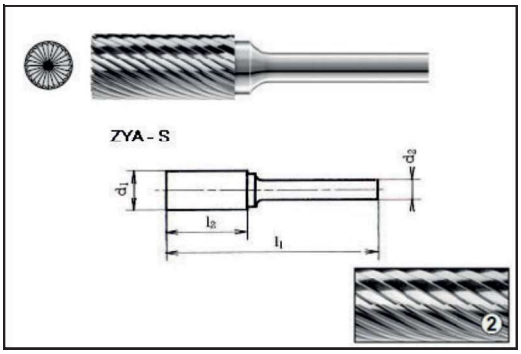
Descrizione:
Fresa rotativa ZYA-S a forma cilindrico-frontale, HM (con taglienti sulla superficie frontale). Gambo mm 6, tagliente 6 universale.
Cod. 162, 206, 228: tagliente 2 per materiali soffici di facile asportazione.

HM cylindrical and face burr ZYA-S (with face cutting edges). Shaft mm 6, universal cut 6.
Codes 162, 206, 228: cut 2 for easy cut soft material.

Art. 15152				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15152167	**4**	6	14	50
15152211	**6**	6	18	50
15152233	**8**	6	18	63
15152277	**10**	6	20	65
15152299	**12**	6	25	70
15152321	**16**	6	25	70
*	**20**	6	25	70

Fresa rotativa cilindrico-frontale ZYA-S, HM, g6
HM cylindrical and face burr ZYA-S, shaft mm 6

Art. 15156 GnuBo



Descrizione:
Fresa rotativa ZYA-S a forma cilindrico-frontale, HM (con taglienti sulla superficie frontale). Gambo mm 6, tagliente 2 per materiali soffici di facile asportazione.

HM cylindrical and face burr ZYA-S (with face cutting edges).
Shaft mm 6, cut 2 for easy cut soft material.

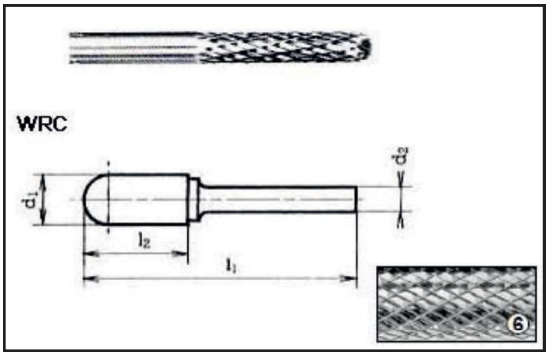
Art. 15156

Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15156162	**4**	6	14	50
15156206	**6**	6	18	50
15156228	**8**	6	18	63

Fresa rotativa cilindrico-frontale a testa sferica WRC, HM, gambo mm 3
HM cylindrical and face burr with ball nose WRC, shaft mm 3

Art. 15172 GnuBo



Descrizione:
Fresa rotativa WRC a forma cilindrico-frontale con testa sferica, HM.
Gambo mm 3, tagliente 6 universale

HM cylindrical and face burr with ball nose WRC.
Shaft mm 3, universal cut 6.

Art. 15172

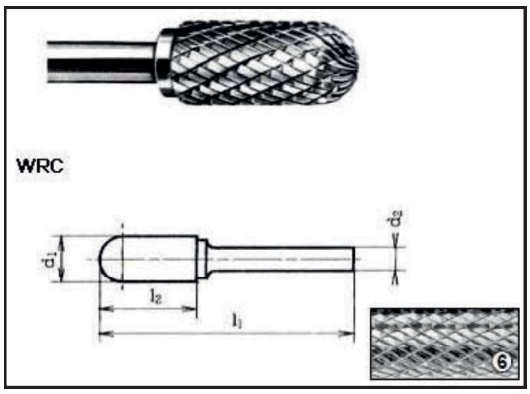
*** : su richiesta/under request**

Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**1,5**	3	8	40
15172123	**2**	3	10	40
*	**2,5**	3	12	40
15172145	**3**	3	14	40
*	**4**	3	10	45
*	**5**	3	12	47
15172211	**6**	3	14	49

Fresa rotativa cilindrico-frontale a testa sferica WRC, HM, gambo mm 6
HM cylindrical and face burr with ball nose WRC, shaft mm 6

Art. 15182 GnuBo



Descrizione:
Fresa rotativa WRC a forma cilindrico-frontale con testa sferica, HM.
Gambo mm 6, tagliente 6 universale.

HM cylindrical and face burr with ball nose WRC. Shaft mm 6, universal cut 6.

Art. 15182

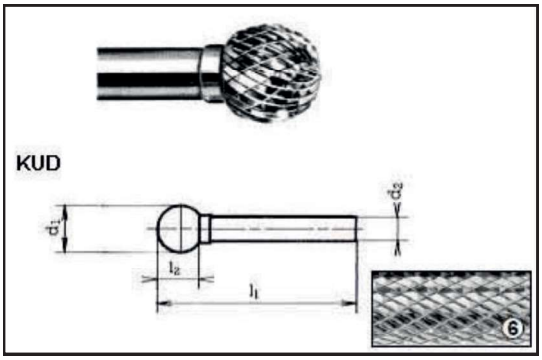
*** : su richiesta/under request**

Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15182167	**4**	6	14	50
15182211	**6**	6	18	50
15182233	**8**	6	18	63
15182277	**10**	6	20	65
15182288	**12**	6	25	70
*	**16**	6	25	70
*	**20**	6	25	70

Fresa rotativa sferica KUD, HM, gambo mm 3
HM spheric burr KUD, shaft mm 3

Art. 15192 GnuBo



Descrizione:
Fresa rotativa KUD a forma sferica, HM.
Gambo mm 3, tagliente 6 universale.

HM spheric burr KUD.
Shaft mm 3, universal cut 6.

Art. 15192

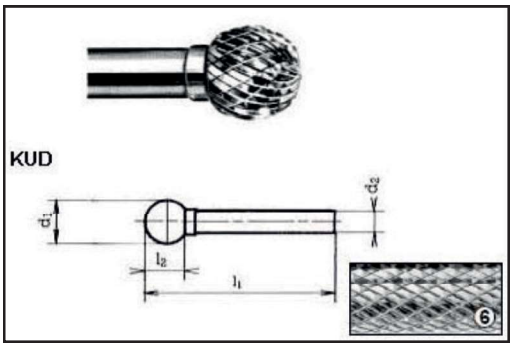
*** : su richiesta/under request**

Dati tecnici / Technical data

cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**1,5**	3	1	40
15192123	**2**	3	1,5	40
*	**2,5**	3	2	40
15192145	**3**	3	2,5	40
15192167	**4**	3	3,5	38,5
*	**5**	3	4	39
15192211	**6**	3	5	40

Fresa rotativa sferica KUD, HM, gambo mm 6
HM spheric burr KUD, shaft mm 6

Art. 15202 GnuBo



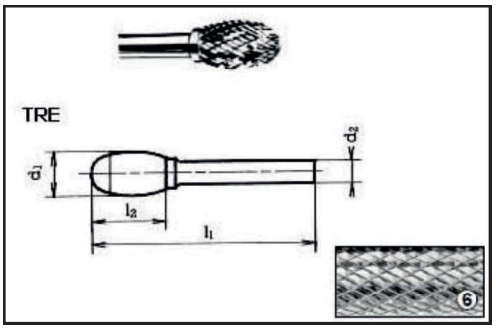
Descrizione:
Fresa rotativa KUD a forma sferica, HM.
Gambo mm 6, tagliente 6 universale.

HM spheric burr KUD.
Shaft mm 6, universal cut 6.

Art. 15202				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**4**	6	3,5	50
15202233	**6**	6	5	50
15202255	**8**	6	7	52
15202277	**10**	6	9	54
15202321	**12**	6	11	56
15202343	**16**	6	15	60
15202365	**20**	6	18	63

Fresa rotativa a goccia TRE, HM, gambo mm 3
HM drop-shape burr TRE, shaft mm 3

Art. 15222 GnuBo



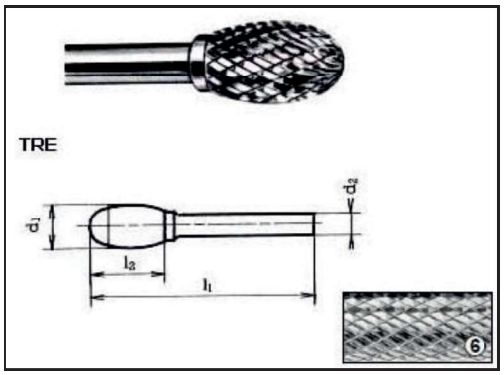
Descrizione:
Fresa rotativa TRE a forma di goccia, HM.
Gambo mm 3, tagliente 6 universale.

HM drop-shape burr TRE.
Shaft mm 3, universal cut 6.

Art. 15222				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15222145	3	3	5	40
15222167	4	3	6	41
*	5	3	8	43
15222211	6	3	9	44

Fresa rotativa a goccia TRE, HM, gambo mm 6
HM drop-shape burr TRE, shaft mm 6

Art. 15232 GnuBo



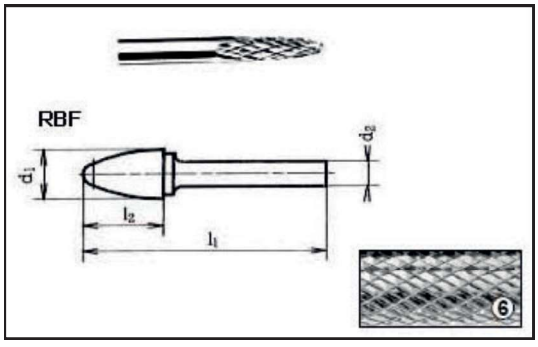
Descrizione:
Fresa rotativa TRE a forma di goccia, HM.
Gambo mm 6, tagliente 6 universale.

HM drop-shape burr TRE.
Shaft mm 6, universal cut 6.

Art. 15232				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**4**	6	6	50
*	**6**	6	9	50
15232255	**8**	6	14	59
*	**10**	6	16	61
15232299	**12**	6	21	66
15232321	**16**	6	25	70
*	**20**	6	25	70

Fresa rotativa ogivale con punta arrotondata RBF, HM, gambo mm 3
HM ogive-shape burr with rounded nose RBF, shaft mm 3

Art. 15262 GnuBo



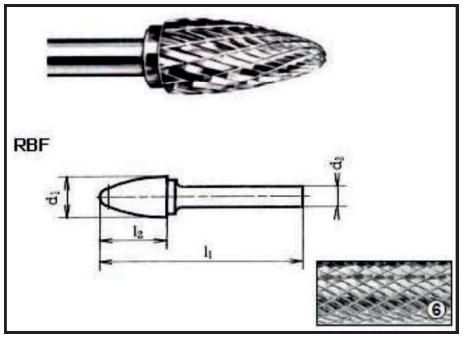
Descrizione:
Fresa rotativa RBF a forma ogivale con punta arrotondata, HM.
Gambo mm 3, tagliente 6 universale.

HM ogive-shape burr with rounded nose RBF. Shaft mm 3, universal cut 6.

Art. 15262				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15262167	**3**	3	14	40
15262174	**4**	3	10	45
*	**5**	3	12	47
15262189	**6**	3	14	49

Fresa rotativa ogivale con punta arrotondata RBF, HM, gambo mm 6
HM ogive-shape burr with rounded nose RBF, shaft

Art. 15272 GnuBo



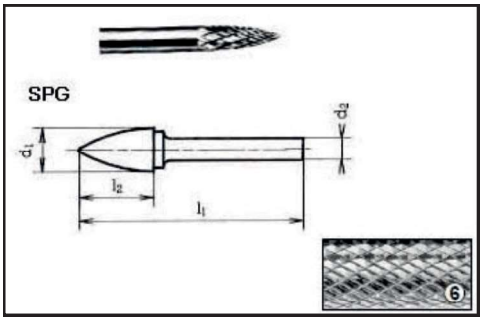
Descrizione:
Fresa rotativa RBF a forma ogivale con punta arrotondata, HM.
Gambo mm 6, tagliente 6 universale.

HM ogive-shape burr with rounded nose RBF.
Shaft mm 6, universal cut 6.

Art. 15272				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**4**	6	14	50
15272189	**6**	6	18	50
*	**8**	6	16	61
15272211	**10**	6	20	65
15272255	**12**	6	25	70
*	**16**	6	28	73
*	**20**	6	35	80

Fresa rotativa ogivale con punta SPG, HM, gambo mm 3
HM ogive-shape burr with pointed nose SPG, shaft mm 3

Art. 15282 GnuBo



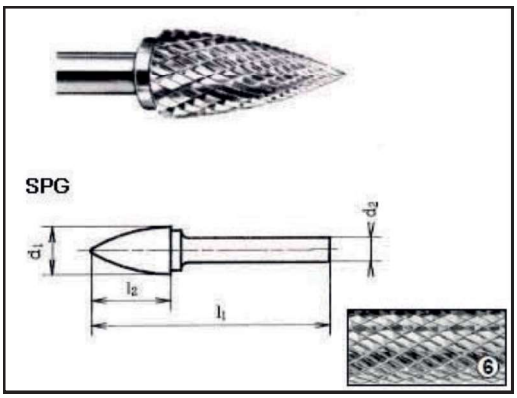
Descrizione:
Fresa rotativa SPG a forma ogivale con punta, HM. Gambo mm 3, tagliente 6 universale.

HM ogive-shape burr with pointed nose SPG.
Shaft mm 3, universal cut 6.

Art. 15282				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
15282145	**3**	3	14	40
*	**4**	3	10	45
*	**5**	3	12	47
15282189	**6**	3	14	49

Fresa rotativa ogivale con punta SPG, HM, gambo mm 6
HM ogive-shape burr with pointed nose SPG, shaft mm 6

Art. 15292 GnuBo



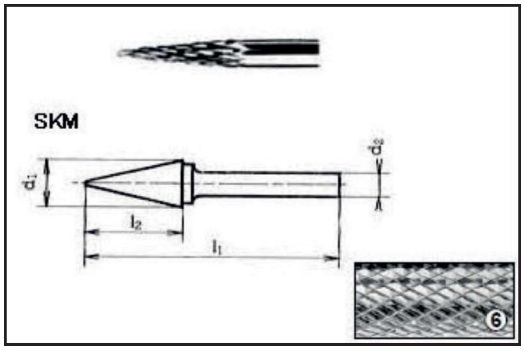
Descrizione:
Fresa rotativa SPG a forma ogivale con punta, HM. Gambo mm 6, tagliente 6 universale.

HM ogive-shape burr with pointed nose SPG. Shaft mm 6, universal cut 6.

Art. 15292				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]
*	**4**	6	14	50
15292189	**6**	6	18	50
15292211	**8**	6	16	61
15292233	**10**	6	20	65
*	**12**	6	25	70
*	**16**	6	28	73
*	**20**	6	40	85

Fresa rotativa conica SKM, HM, gambo mm 3
HM conical burr SKM, shaft mm 3

Art. 15302 GnuBo



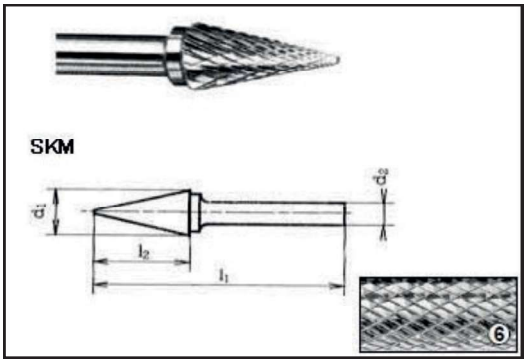
Descrizione:
Fresa rotativa SKM a forma conica, HM.
Gambo mm 3, tagliente 6 universale.

HM conical burr SKM.
Shaft mm 3, universal cut 6.

Art. 15302					
* : su richiesta/under request					
Dati tecnici / Technical data					
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]	α
15302145	**3**	3	14	40	10°
*	**4**	3	10	45	20°
*	**5**	3	12	47	22°
15302167	**6**	3	14	49	22°

Fresa rotativa conica SKM, HM, gambo mm 6
HM conical burr SKM, shaft mm 6

Art. 15312 GnuBo



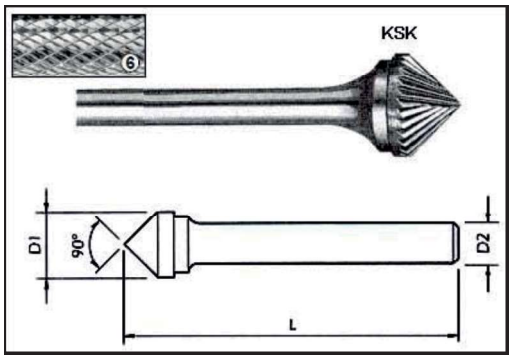
Descrizione:
Fresa rotativa SKM a forma conica, HM. Gambo mm 6, tagliente 6 universale.

HM conical burr SKM.
Shaft mm 6, universal cut 6.

Art. 15312					
* : su richiesta/under request					
Dati tecnici / Technical data					
cod. code	d_1 [mm]	d_2 [mm]	l_2 [mm]	l_1 [mm]	α
*	**4**	6	12	50	16°
15312167	**6**	6	18	50	16°
*	**8**	6	15	60	26°
15132189	**10**	6	18	63	28°
15132211	**12**	6	20	65	30°
*	**16**	6	22	67	38°
*	**20**	6	24	69	45°

Fresa rotativa conica a 90° KSK, HM, gambo mm 3
HM conical burr 90° KSK, shaft mm 3

Art. 15314 GnuBo



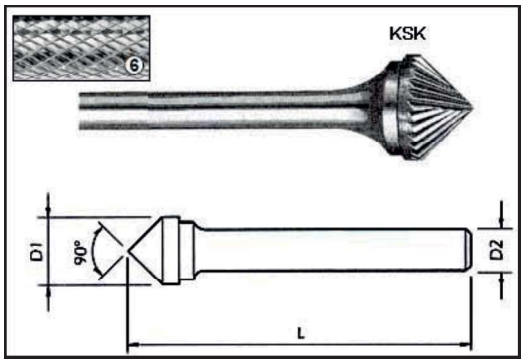
Descrizione:
Fresa rotativa KSK a forma conica a 90°, HM. Simile DIN 8033.
Gambo mm 3, tagliente 6 universal.

HM conical burr 90° KSK.
Similar to DIN 8033.
Shaft mm 3, universal cut 6.

Art. 15314				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	D1 [mm]	D2 [mm]	L [mm]	α
*	**3**	3	40	90°
*	**4**	3	38	90°
15314184	**5**	3	39	90°
15314211	**6**	3	40	90°

Fresa rotativa conica a 90° KSK, HM, gambo mm 6
HM conical burr 90° KSK, shaft mm 6

Art. 15315 GnuBo



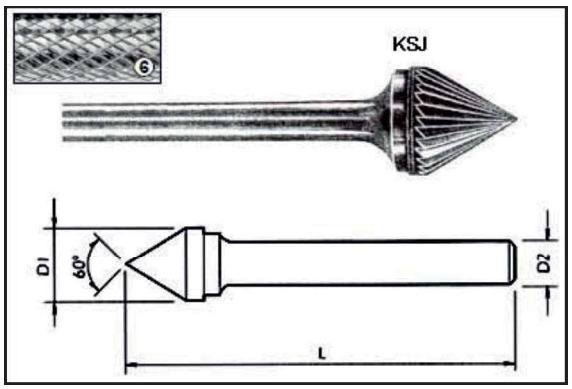
Descrizione:
Fresa rotativa KSK a forma conica a 90°, HM. Simile DIN 8033. Gambo mm 6, tagliente 6 universale.

HM conical burr 90° KSK.
Similar to DIN 8033.
Shaft mm 6, universal cut 6.

Art. 15315				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	D1 [mm]	D2 [mm]	L [mm]	α
*	**4**	6	50	90°
*	**6**	6	50	90°
15315174	**8**	6	53	90°
15315189	**10**	6	54	90°
15315211	**12**	6	56	90°
*	**16**	6	59	90°
*	**20**	6	62	90°

Fresa rotativa conica a 60° KSJ, HM, gambo mm 3
HM conical burr 60° KSJ, shaft mm 3

Art. 15318 GnuBo



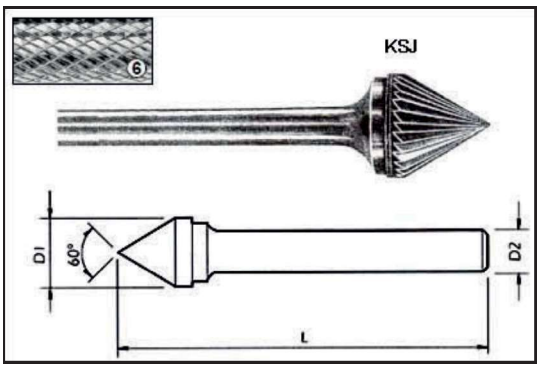
Descrizione:
Fresa rotativa KSJ a forma conica a 60°, HM. Simile DIN 8033.
Gambo mm 3, tagliente 6 universale.

HM conical burr 60° KSJ.
Similar to DIN 8033.
Shaft mm 3, universal cut 6.

Art. 15318				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	D1 [mm]	D2 [mm]	L [mm]	α
*	**3**	3	40	60°
*	**4**	3	38	60°
*	**5**	3	39	60°
15318211	**6**	3	40	60°

Fresa rotativa conica a 60° KSJ, HM, gambo mm 6
HM conical burr 60° KSJ, shaft mm 6

Art. 15319 GnuBo



Descrizione:
Fresa rotativa KSJ a forma conica a 60°, HM. Simile DIN 8033.
Gambo mm 6, tagliente 6 universale.

HM conical burr 60° KSJ. Similar to DIN 8033.
Shaft mm 6, universal cut 6.

Art. 15319				
* : su richiesta/under request				
Dati tecnici / Technical data				
cod. code	D1 [mm]	D2 [mm]	L [mm]	α
*	**4**	6	50	60°
*	**6**	6	50	60°
15319174	**8**	6	56	60°
15319189	**10**	6	57	60°
15319211	**12**	6	60	60°
*	**16**	6	64	60°
*	**20**	6	68	60°

Serie di frese a svasare a 90°, HSS-Co
HSS-Co countersink cutters 90° set

Art. 15360 GnuBo

Descrizione:
Serie di frese a svasare a 90° a 3 taglienti, HSS-Co.
Diametri mm: 6,3 - 8,3 - 10,4 - 12,4.
Codolo cilindrico.

HSS-Co countersink cutters 90° with 3 cutting edges set. Diameters mm: 6,3 - 8,3 - 10,4 - 12,4. Cylindrical shank.

ART. 15360034					
Dati tecnici / Technical data					
diam. nominale nominal diam. [mm]	vite screw	diam. min min. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. tot. total length [mm]	gradi degrees
6,3	*M 3*	1,8	6	51	90°
8,3	*M 4*	2	6	52	90°
10,4	*M 5*	2,5	6	53	90°
12,4	*M 6*	2,8	8	55	90°

Serie di frese a svasare a 90°
HSS-Co countersink cutters 90° set

Art. 15364 GnuBo

Descrizione:
Serie di frese a svasare a 90° a 3 taglienti, HSS-Co.
Diametri mm: 16,5 - 20,5 - 25.
Codolo cilindrico.

HSS-Co countersink cutters 90° with 3 cutting edges set. Diameters mm: 16,5 - 20,5 - 25. Cylindrical shank.

ART. 15364034					
Dati tecnici / Technical data					
diam. nominale nominal diam. [mm]	vite screw	diam. min min. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. tot. total length [mm]	gradi degrees
16,5	*M 8*	3,2	10	60	90°
20,5	*M 10*	3,5	10	63	90°
25	*M 12*	3,8	10	67	90°

Serie di frese per sedi di viti a testa cilindrica, HSS-Co
HSS-Co counterbore for cheese-headed screws set

Art. 15370 GnuBo

Descrizione:
Serie di frese per sedi di viti a testa cilindrica, HSS-Co.
4 taglienti, codolo cilindrico.
Per viti M3, M4, M5, M6.

HSS-Co counterbore for cheese-headed screws set.
4 cutting edges, cylindrical shank.
For screws M3, M4, M5, M6.

ART. 15370361					
Dati tecnici / Technical data					
diam. nominale nominal diam. [mm]	vite screw	diam. guida drive. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. taglienti flutes length [mm]	lungh. tot. total length [mm]
5,9	*M 3*	3,2	6	14	71
7,4	*M 4*	4,3	6	14	71
8,9	*M 5*	5,3	8	18	80
10,4	*M 6*	6,4	8	18	80

Serie di frese per sedi di viti a testa cilindrica, HSS-Co
HSS-Co counterbore for cheese-headed screws set

Art. 15374 GnuBo

Descrizione:
Serie di frese per sedi di viti a testa cilindrica, HSS-Co.
4 taglienti, codolo cilindrico.
Per viti M8, M10, M12.

HSS-Co counterbore for cheese-headed screws set.
4 cutting edges, cylindrical shank.
For screws M8, M10, M12.

ART. 15374362					
Dati tecnici / Technical data					
diam. nominale nominal diam. [mm]	vite screw	diam. guida drive. diam. [mm]	diam. gambo shaft diam. [mm]	lungh. taglienti flutes length [mm]	lungh. tot. total length [mm]
13,5	*M8*	8,4	12	22	100
16,5	*M10*	10,5	12	22	100
19,0	*M12*	13	12	22	100

Vite di bloccaggio per inserti con sistema S
Fixing screw for S system inserts

Art. 15415 GnuBo

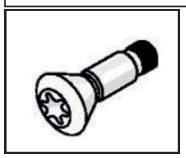
Descrizione:
Vite di bloccaggio per inserti con sistema S per frese con diametro di mm 20.

Fixing screw for S system inserts for mills with diameter mm 20.

Cod.15415506 VITI P US 2506-T70P

Vite di bloccaggio per inserti con sistema S
Fixing screw for S system inserts

Art. 15430 GnuBo



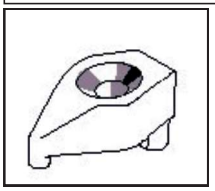
Descrizione:
Vite di bloccaggio per inserti RC con sistema S
Per frese con diametro di mm 8 (cod.080), mm10 (cod. 100), mm 12 (cod.120), mm 16 (cod. 160).

Fixing screw for S system RC inserts.
For mills with diameter mm 8 (cod.080), mm10 (cod. 100), mm 12 (cod.120), mm 16 (cod. 160).

ART. 15430			
Dati tecnici / Technical data			
cod. code	tipo kind	x frese for drills cod. GB	
15430080	**CS3007-T08P**	14580080	*K2-SRC08-A*
15430100	**CS4008-T15P**	14580100	*K2-SRC10-A*
15430120	**CS5009-T20P**	14580120	*K2-SRC12-A*
15430160	**CS5013-T20P**	14580160	*K2-SRC16-A*

Staffa di bloccaggio per inserti tondi con sistema M
Clamp for M system round inserts

Art. 15440 GnuBo



Descrizione:
Staffa di bloccaggio per inserti tondi con sistema M per frese con diametro da mm 52 a mm 125. Articolo ad esaurimento.

Clamp for M system round inserts for mills with diameter from mm 52 to mm 125. Exhaustion of this item in stock.

Cod.15440020

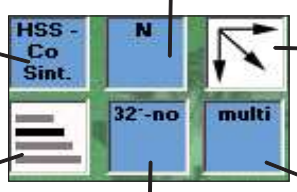
Gnutti Bortolo
INFORMAZIONI TECNICHE

LEGENDA

PROFILO DEL TAGLIENTE DIN1836		
N	H	TAGLIENTE A FINIRE *FINISHING CUTTING EDGE PROFILE*
NF		TAGLIENTE A SGROSSARE E SEMIFINIRE *ROUGHING AND SEMI-FINISHING CUTTING EDGE PROFILE*
NR		TAGLIENTE A SGROSSARE *ROUGHING CUTTING EDGE PROFILE*

Materiale dell'utensile
Tool material

Profilo del tagliente
Flutes profile



Utilizzo
Use

Lunghezza Fresa
Mill length

Elica -Spoglia
Helix - Rake

Ricopertura
Coating

www.gnuttibortolo.com — Tel. 0308926011

Gnutti Bortolo

INFORMAZIONI TECNICHE

O	OTTIMO VERY GOOD
B	BUONO GOOD

APPLICAZIONI FRESE - END MILLS APPLICATIONS

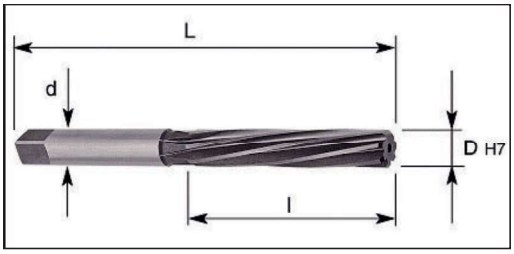
I PARAMETRI DI TAGLIO DELLE FRESE SONO A PARTE, PREGO RICHIEDERLI!!!

Materiale Material	Cod. Code 13510	Cod. Code 13513	Cod. Code 13530	Cod. Code 13540	Cod. Code 13544	Cod. Code 13590	Cod. Code 13594	Cod. Code 13600	Cod. Code 13610	Cod. Code 13620	Cod. Code 13623	Cod. Code 13632	Cod. Code 13636	Cod. Code 13638	Cod. Code 13640	Cod. Code 13660	Cod. Code 13663	Cod. Code 13671	Cod. Code 13680	Cod. Code 13690	Cod. Code 13700	Cod. Code 13711	Cod. Code 13715	Cod. Code 13720	Cod. Code 13730	Cod. Code 13750	Cod. Code 13753	Cod. Code 13765	Cod. Code 13811	Cod. Code 13814	Cod. Code 13831	Cod. Code 13841	Cod. Code 13871
acciaio *steel*	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
acciaio inox *stainless steel*	B	B	B	B	B	B	B	B	B	B	B					B	B	B	B	O	O	B	B	B	B	B	B	B	B	B	B	B	B
acciaio resistente al calore *heat resisting steel*	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Acciai temprati < 54 HRC *Hardened steels < 54 HRC*												O	O	O	O																		
Acciai temprati < 62 HRC *Hardened steels < 62 HRC*												O	O	O	O																		
Ghisa *Cast iron*	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Leghe leggere *Light alloys*	B	B	B	B	B	B	B	B	B	B	B															B	B	B	B	B		B	B
Metalli non ferrosi *Non ferrous metals*	B	B	B	B	B	O	O	O	O	B	B					B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	O
Leghe di nichel *Nickel alloys*																																	
Titanio *Titanium*	B	B	B	B	B	B	B	B	B	B	B					B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Grafite *Graphite*																																	
Materie plastiche *Plastics*	B	B	B	B	B	B	B	B	B	B	B															B	B	B	B	B		B	B

Materiale Material	Cod. Code 13874	Cod. Code 13878	Cod. Code 13881	Cod. Code 13884	Cod. Code 13955	Cod. Code 13960	Cod. Code 13970	Cod. Code 14070	Cod. Code 14080	Cod. Code 14112	Cod. Code 14121	Cod. Code 14130	Cod. Code 14139	Cod. Code 14157	Cod. Code 14166	Cod. Code 14172	Cod. Code 14184	Cod. Code 14193	Cod. Code 14202	Cod. Code 14211	Cod. Code 14220	Cod. Code 14267	Cod. Code 14279	Cod. Code 14291	Cod. Code 14303	Cod. Code 14320	Cod. Code 14330	Cod. Code 14350	Cod. Code 14360	Cod. Code 14370	Cod. Code 14420	Cod. Code 14430
acciaio *steel*	O	O	O	O	O	B	O	B	B	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
acciaio inox *stainless steel*	B	B	B	B	O	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B					B	B	B	B	B	O	O
acciaio resistente al calore *heat resisting steel*	B	B	B	B	O	O	O		O	B	B	B	B																			
Acciai temprati < 54 HRC *Hardened steels < 54 HRC*					O	O	O	B	B																							
Acciai temprati < 62 HRC *Hardened steels < 62 HRC*					O	B	B	O	O																							
Ghisa *Cast iron*	O	O	O	O	O	B	O	B	B	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Leghe leggere *Light alloys*	B	B						B	B			B	B	B	B	B	B	B	B	B	B											
Metalli non ferrosi *Non ferrous metals*	O	O	B	B			B			B	B	B	B	B	B	B	B	B	B	B	B	O	O	O	O							
Leghe di nichel *Nickel alloys*					O	O	O		O																							
Titanio *Titanium*	B	B	B	B	O	O	O		O	B	B	B	B																			
Grafite *Graphite*																																
Materie plastiche *Plastics*	B	B			O			B	B			B	B	B	B	B	B	B	B	B	B											

Alesatore a mano DIN 206 B, HSS-Co
Hand reamer DIN 206 B, HSS-Co

Art. 15510 GnuBo



Descrizione:
Alesatore fisso a mano per fori cilindrici in HSS-Co, UNI 6852, DIN 206 B, ISO 236/I.
Taglienti elicoidali a 10°, codolo cilindrico.
Tolleranza del foro alesato H7.

Hand reamer for cylindrical holes made in HSS-Co, UNI 6852, DIN 206 B, ISO 236/I.
Elicoidal flutes 10°, cylindrical shank.
Reamed hole tolerance H7.

ART. 15510

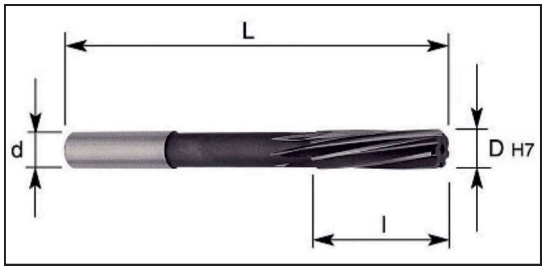
* : su richiesta/under request

Dati tecnici / Technical data

cod. code	D H7 [mm]	l [mm]	L [mm]	d [mm]	Z	cod. code	D H7 [mm]	l [mm]	L [mm]	d [mm]	Z
15510030	**3**	31	62	3	4	15510210	**21**	100	201	21	8
15510040	**4**	38	76	4	5	15510220	**22**	107	215	22	8
15510050	**5**	44	87	5	5	*	**23**	107	215	23	8
15510060	**6**	47	93	6	5	15510240	**24**	115	231	24	8
15510070	**7**	54	107	7	5	*	**25**	115	231	25	8
15510080	**8**	58	115	8	6	*	**26**	115	231	26	8
15510090	**9**	62	124	9	6	*	**27**	124	247	27	10
15510100	**10**	66	133	10	6	*	**28**	124	247	28	10
15510110	**11**	71	142	11	7	*	**29**	124	247	29	10
15510120	**12**	76	152	12	7	*	**30**	124	247	30	10
15510130	**13**	76	152	13	7	*	**32**	133	265	32	10
15510140	**14**	81	163	14	7	*	**34**	142	284	34	10
15510150	**15**	81	163	15	7	*	**35**	142	284	35	10
15510160	**16**	87	175	16	7	*	**36**	142	284	36	10
15510170	**17**	87	175	17	7	*	**38**	152	305	38	10
15510180	**18**	93	188	18	8	*	**40**	152	305	40	10
15510190	**19**	93	188	19	8	*	**45**	163	326	45	12
15510200	**20**	100	201	20	8	*	**50**	174	347	50	12

Alesatore a macchina DIN 212 D, HSS-Co sinterizzato
Machine reamer DIN 212 D, sintered HSS-Co

Art. 15530 GnuBo



Descrizione:
Alesatore a macchina per fori cilindrici in HSS sinterizzato con 8,5% di cobalto, UNI 6853, DIN 212 D, ISO 521.
Taglienti elicoidali 10°, codolo cilindrico.
Tolleranza del foro alesato H7.

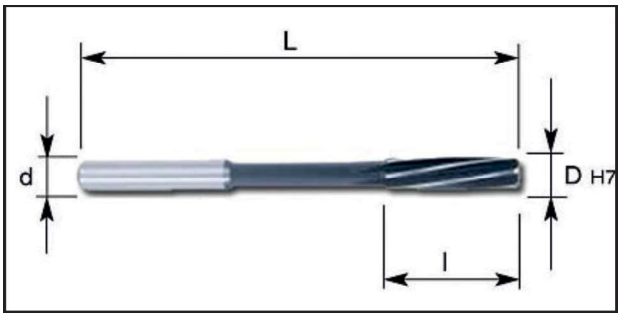
Machine reamer for cylindrical holes made in sintered HSS with 8,5% of cobalt, UNI 6853, DIN 212 D, ISO 521.
Elicoidal flutes 10°, cylindrical shank.
Reamed hole tolerance H7.

ART. 15530

Dati tecnici / Technical data

cod. code	DH7 [mm]	l [mm]	L [mm]	d [mm]	Z	cod. code	DH7 [mm]	l [mm]	L [mm]	d [mm]	Z
15530020	**2,0**	11	49	2	5	15530067	**6,7**	31	109	6,7	6
15530022	**2,2**	12	53	2,2	5	15530068	**6,8**	31	109	6,8	6
15530025	**2,5**	14	57	2,5	5	15530069	**6,9**	31	109	6,9	6
15530030	**3,0**	15	61	3	5	15530070	**7,0**	31	109	7	6
15530031	**3,1**	16	65	3,1	5	15530071	**7,1**	31	109	7,1	6
15530032	**3,2**	16	65	3,2	5	15530072	**7,2**	31	109	7,2	6
15530033	**3,3**	16	65	3,3	5	15530073	**7,3**	31	109	7,3	6
15530034	**3,4**	18	70	3,4	5	15530074	**7,4**	31	109	7,4	6
15530035	**3,5**	18	70	3,5	5	15530075	**7,5**	33	117	7,5	6
15530036	**3,6**	18	70	3,6	5	15530076	**7,6**	33	117	7,6	6
15530037	**3,7**	18	70	3,7	5	15530077	**7,7**	33	117	7,7	6
15530038	**3,8**	19	75	3,8	5	15530078	**7,8**	33	117	7,8	6
15530039	**3,9**	19	75	3,9	5	15530079	**7,9**	33	117	7,9	6
15530040	**4,0**	19	75	4	5	15530080	**8,0**	33	117	8	6
15530041	**4,1**	19	75	4,1	5	15530081	**8,1**	33	117	8,1	6
15530042	**4,2**	19	75	4,2	5	15530082	**8,2**	33	117	8,2	6
15530043	**4,3**	21	80	4,3	5	15530083	**8,3**	36	125	8,5	6
15530044	**4,4**	21	80	4,4	5	15530084	**8,4**	33	117	8,4	6
15530045	**4,5**	21	80	4,5	5	15530085	**8,5**	36	125	8,5	6
15530046	**4,6**	21	80	4,6	5	15530086	**8,6**	36	125	8,6	6
15530047	**4,7**	21	80	4,7	5	15530087	**8,7**	36	125	8,7	6
15530048	**4,8**	23	86	4,8	5	15530088	**8,8**	36	125	8,8	6
15530049	**4,9**	23	86	4,9	5	15530089	**8,9**	36	125	8,9	6
15530050	**5,0**	23	86	5	5	15530090	**9,0**	36	125	9	6
15530051	**5,1**	23	86	5,1	5	15530092	**9,2**	36	125	9,2	6
15530052	**5,2**	23	86	5,2	5	15530093	**9,3**	36	125	9,3	6
15530053	**5,3**	26	93	5,3	5	15530094	**9,4**	36	125	9,4	6
15530054	**5,4**	26	93	5,4	5	15530095	**9,5**	38	133	9,5	6
15530055	**5,5**	26	93	5,5	6	15530096	**9,6**	38	133	9,6	6
15530056	**5,6**	26	93	5,6	6	15530097	**9,7**	38	133	9,7	6
15530057	**5,7**	26	93	5,7	6	15530098	**9,8**	38	133	9,8	6
15530058	**5,8**	26	93	5,8	6	15530099	**9,9**	38	133	9,9	6
15530059	**5,9**	26	93	5,9	6	15530100	**10,0**	38	133	10	6
15530060	**6,0**	26	93	6	6	15530105	**10,5**	41	142	10,5	7
15530061	**6,1**	28	101	6,1	6	15530110	**11,0**	41	142	11	7
15530062	**6,2**	28	101	6,2	6	15530120	**12,0**	44	151	12	7
15530063	**6,3**	28	101	6,3	6	15530130	**13,0**	44	151	13	7
15530064	**6,4**	28	101	6,4	6	15530140	**14,0**	47	160	14	7
15530065	**6,5**	28	101	6,5	6	15530150	**15,0**	50	162	15	7
15530066	**6,6**	28	101	6,6	6	15530160	**16,0**	52	170	16	7

Alesatore a macchina DIN 212 D, HSS-Co
Machine reamer DIN 212 D, HSS-Co



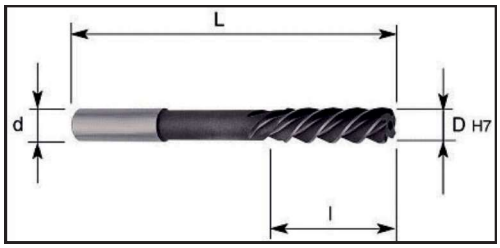
Descrizione:
Alesatore a macchina per fori cilindrici in HSS-Co, DIN 212 D.
Taglienti elicoidali, codolo cilindrico. Tolleranza del foro alesato H7.

Machine reamer for cylindrical holes made in HSS-Co, DIN 212 D.
Elicoidal flutes, cylindrical shank. Reamed hole tolerance H7.

Art. 15532 GnuBo

ART. 15532				
Dati tecnici / Technical data				
cod. code	D H7 [mm]	d [mm]	L [mm]	l [mm]
15532052	**5,2**	5	86	23
15532101	**10,1**	10	133	38
15532102	**10,2**	10	133	38
15532103	**10,3**	10	133	38
15532104	**10,4**	10	133	38
15532106	**10,6**	10	133	38
15532107	**10,7**	10	142	41
15532108	**10,8**	10	142	41
15532109	**10,9**	10	142	41
15532145	**14,5**	12,5	162	50
15532165	**16,5**	14	175	54
15532170	**17,0**	14	175	54
15532175	**17,5**	14	182	56
15532180	**18,0**	14	182	56
15532185	**18,5**	16	189	58

Alesatore a macchina DIN 212 E, HSS-Co sinterizzato
Machine reamer DIN 212 E, sintered HSS-Co



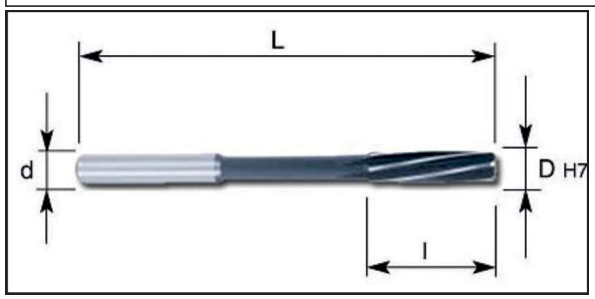
Descrizione:
Alesatore a macchina per fori cilindrici in HSS sinterizzato con 8,5% di cobalto, DIN 212 E, ISO 521. Taglienti elicoidali a 45°, codolo cilindrico. Tolleranza del foro alesato H7.

Machine reamer for cylindrical holes made in sintered HSS with 8,5% of cobalt, DIN 212 E, ISO 521. Elicoidal flutes 45°, cylindrical shank. Reamed hole tolerance H7.

Art. 15550 GnuBo

ART. 15550					
Dati tecnici / Technical data					
cod. code	D H7 [mm]	l [mm]	L [mm]	d [mm]	Z
15550020	**2,0**	11	49	2	3
15550025	**2,5**	14	57	2,5	3
15550030	**3,0**	15	61	3	3
15550035	**3,5**	18	70	3,5	3
15550040	**4,0**	19	75	4	3
15550045	**4,5**	21	80	4,5	3
15550050	**5,0**	23	86	5	3
15550055	**5,5**	26	93	5,5	3
15550060	**6,0**	26	93	6	3
15550065	**6,5**	28	101	6,5	3
15550070	**7,0**	31	109	7	3
15550080	**8,0**	33	117	8	3
15550090	**9,0**	36	125	9	3
15550100	**10,0**	38	133	10	4

Alesatore a macchina DIN 212 D, HSS-Co
Machine reamer DIN 212 D, HSS-Co



Descrizione:
Alesatore a macchina per fori cilindrici in HSS-Co, DIN 212 D.
Taglienti elicoidali, codolo cilindrico. Tolleranza del foro alesato H7.

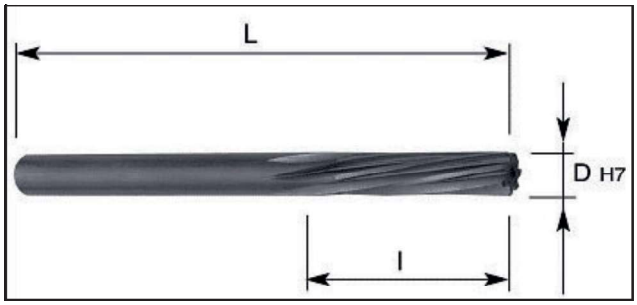
Machine reamer for cylindrical holes made in HSS-Co, DIN 212 D.
Elicoidal flutes, cylindrical shank. Reamed hole tolerance H7.

Art. 15568 GnuBo

ART. 15568				
Dati tecnici / Technical data				
cod. code	D H7 [mm]	d [mm]	l [mm]	L [mm]
15568109	**4,02**	4	19	75
15568131	**5,02**	5	23	86
15568153	**6,02**	6	26	93
15568175	**6,03**	6	26	93
15568197	**8,01**	8	33	117
15568219	**8,02**	8	33	117
15568241	**8,03**	8	33	117
15568263	**8,04**	8	33	117
15568285	**9,02**	9	36	125
15568307	**10,02**	10	38	133
15568329	**10,04**	10	38	133
15568351	**12,02**	10	44	151

Alesatore a macchina decimale DIN 212 D, HM
Decimal machine reamer DIN 212 D, HM

Art. 15590 GnuBo



Descrizione:
Alesatore a macchina decimale per fori cilindrici in metallo duro, DIN 212 D.
Taglienti elicoidali 10°, codolo cilindrico.
Tolleranza del foro alesato H7.

Decimal machine reamer for cylindrical holes made in hard metal,
DIN 212 D. Elicoidal flutes 10°, cylindrical shank.
Reamed hole tolerance H7.

ART. 15590

*** : su richiesta/under request**

Dati tecnici / Technical data

cod. code	D H7 [mm]	l [mm]	L [mm]	λ°	Z	cod. code	D H7 [mm]	l [mm]	L [mm]	λ°	Z	cod. code	D H7 [mm]	l [mm]	L [mm]	λ°	Z
*	**1**	5	37	30	3	15590045	**4,5**	21	80	10	5	15590079	**7,9**	33	117	10	6
*	**1,1**	7	40	30	3	15590046	**4,6**	21	80	10	5	15590080	**8**	33	117	10	6
*	**1,2**	7	40	30	3	15590047	**4,7**	21	80	10	5	15590081	**8,1**	33	117	10	6
*	**1,3**	7	40	30	3	15590048	**4,8**	23	86	10	5	15590082	**8,2**	33	117	10	6
*	**1,4**	8	40	30	3	15590049	**4,9**	23	86	10	5	15590083	**8,3**	33	117	10	6
*	**1,5**	8	40	30	3	15590050	**5**	23	86	10	5	15590084	**8,4**	33	117	10	6
*	**1,6**	9	43	30	3	15590051	**5,1**	23	86	10	5	15590085	**8,5**	36	125	10	6
*	**1,7**	9	43	30	3	15590052	**5,2**	23	86	10	5	15590086	**8,6**	36	125	10	6
*	**1,8**	10	46	30	3	15590053	**5,3**	26	93	10	5	15590087	**8,7**	36	125	10	6
*	**1,9**	10	46	30	3	15590054	**5,4**	26	93	10	5	15590088	**8,8**	36	125	10	6
15590020	**2**	11	49	10	5	15590055	**5,5**	26	93	10	6	15590089	**8,9**	36	125	10	6
*	**2,1**	11	49	10	5	15590056	**5,6**	26	93	10	6	15590090	**9**	36	125	10	6
*	**2,2**	12	53	10	5	15590057	**5,7**	26	93	10	6	15590091	**9,1**	36	125	10	6
*	**2,3**	12	53	10	5	15590058	**5,8**	26	93	10	6	15590092	**9,2**	36	125	10	6
*	**2,4**	14	57	10	5	15590059	**5,9**	26	93	10	6	15590093	**9,3**	36	125	10	6
15590025	**2,5**	14	57	10	5	15590060	**6**	26	93	10	6	15590094	**9,4**	36	125	10	6
*	**2,6**	14	57	10	5	15590061	**6,1**	28	101	10	6	15590095	**9,5**	38	133	10	6
*	**2,7**	15	61	10	5	15590062	**6,2**	28	101	10	6	15590096	**9,6**	38	133	10	6
*	**2,8**	15	61	10	5	15590063	**6,3**	28	101	10	6	15590097	**9,7**	38	133	10	6
*	**2,9**	15	61	10	5	15590064	**6,4**	28	101	10	6	15590098	**9,8**	38	133	10	6
15590030	**3**	15	61	10	5	15590065	**6,5**	28	101	10	6	15590099	**9,9**	38	133	10	6
15590031	**3,1**	16	65	10	5	15590066	**6,6**	28	101	10	6	15590100	**10**	38	133	10	6
15590032	**3,2**	16	65	10	5	15590067	**6,7**	31	109	10	6	15590105	**10,5**	41	142	10	7
15590033	**3,3**	16	65	10	5	15590068	**6,8**	31	109	10	6	15590110	**11**	41	142	10	7
15590034	**3,4**	18	70	10	5	15590069	**6,9**	31	109	10	6	15590115	**11,5**	44	151	10	7
15590035	**3,5**	18	70	10	5	15590070	**7**	31	109	10	6	15590120	**12**	44	151	10	7
15590036	**3,6**	18	70	10	5	15590071	**7,1**	31	109	10	6	15590125	**12,5**	44	151	10	7
15590037	**3,7**	18	70	10	5	15590072	**7,2**	31	109	10	6	15590130	**13**	44	151	10	7
15590038	**3,8**	19	75	10	5	15590073	**7,3**	31	109	10	6	15590135	**13,5**	47	160	10	7
15590039	**3,9**	19	75	10	5	15590074	**7,4**	31	109	10	6	15590140	**14**	47	160	10	7
15590040	**4**	19	75	10	5	15590075	**7,5**	33	117	10	6	15590145	**14,5**	50	162	10	7
15590041	**4,1**	19	75	10	5	15590076	**7,6**	33	117	10	6	15590150	**15**	50	162	10	7
15590042	**4,2**	19	75	10	5	15590077	**7,7**	33	117	10	6	15590155	**15,5**	52	170	10	7
15590043	**4,3**	21	80	10	5	15590078	**7,8**	33	117	10	6	15590160	**16**	52	170	10	7
15590044	**4,4**	21	80	10	5												

λ° = agolo dell'elica / helix angle

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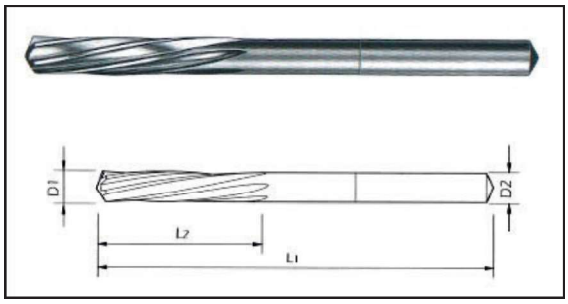
Alesatori - Alesatori in metallo duro - Alesatori HSS-Co gambo conico

Alesatore a macchina centesimale DIN 212 B, HM
Centesimal machine reamer DIN 212 B, HM

Art. 15592 GnuBo



Descrizione:
Alesatore a macchina centesimale per fori cilindrici in metallo duro, DIN 212 B. Taglienti elicoidali 10°, codolo cilindrico. Tolleranza del foro alesato H7.

Centesimal machine reamer for cylindrical holes made in hard metal, DIN 212 B. Elicoidal flutes, cylindrical shank. Reamed hole tolerance H7.

ART. 15592

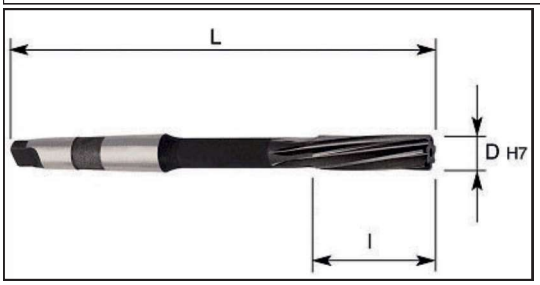
Dati tecnici / Technical data

cod. code	D1 H7 [mm]	D2 h7 [mm]	L2 [mm]	L1 [mm]	Z
15592023	**3,02**	3	15	61	4
15592029	**3,05**	3	15	61	4
15592101	**4,02**	4	19	75	4
15592104	**4,05**	4	19	75	4
15592157	**5,02**	5	23	86	4
15592160	**5,05**	5	23	86	4
15592213	**6,02**	5,6	26	93	6
15592216	**6,05**	5,6	26	93	6
15592285	**8,02**	8	33	117	6
15592288	**8,05**	8	33	117	6
15592333	**10,02**	10	38	133	6
15592355	**12,02**	10	44	151	6

Alesatori - Alesatori HSS-Co gambo conico

Alesatore a macchina DIN 208 B, HSS-Co
Machine reamer DIN 208 B, HSS-Co

Art. 15610 GnuBo



Descrizione:
Alesatore a macchina per fori cilindrici in HSS-Co, UNI 6854, DIN 208 B, ISO 521. Taglienti elicoidali 10°, codolo a cono Morse UNI 521 A, DIN 228 B. Tolleranza del foro alesato H7. ARTICOLO AD ESAURIMENTO.

Machine reamer for cylindrical holes made in HSS-Co, UNI 6854, DIN 208 B, ISO 521. Elicoidal flutes 10°, Morse taper shank UNI 521 A, DIN 228 B. Reamed hole tolerance H7. EXHAUSTION OF THIS ITEM IN STOCK.

ART. 15610

*** : su richiesta/under request**

Dati tecnici / Technical data

cod. code	D H7 [mm]	l [mm]	L [mm]	CM	Z	cod. code	D H7 [mm]	l [mm]	L [mm]	CM	Z
*	**5**	23	133	1	5	15610230	**23**	66	241	2	8
15610060	**6**	26	138	1	6	15610240	**24**	68	268	3	8
*	**7**	31	150	1	6	15610250	**25**	68	268	3	8
15610080	**8**	33	156	1	6	15610260	**26**	70	273	3	8
*	**9**	36	162	1	6	*	**27**	71	277	3	10
15610100	**10**	38	168	1	6	15610280	**28**	71	277	3	10
15610110	**11**	41	175	1	7	*	**29**	73	281	3	10
15610120	**12**	44	182	1	7	15610300	**30**	73	281	3	10
*	**13**	44	182	1	7	*	**31**	75	285	3	10
15610140	**14**	47	189	1	7	15610320	**32**	77	317	4	10
15610150	**15**	50	204	2	7	*	**33**	77	317	4	10
15610160	**16**	52	210	2	7	*	**34**	78	321	4	10
15610170	**17**	54	214	2	7	15610350	**35**	78	321	4	10
15610180	**18**	56	219	2	8	*	**36**	79	325	4	10
15610190	**19**	58	223	2	8	*	**37**	79	325	4	10
15610200	**20**	60	228	2	8	*	**38**	81	329	4	10
15610210	**21**	62	232	2	8	*	**39**	81	329	4	10
15610220	**22**	64	237	2	8	*	**40**	81	329	4	10

Alesatore a mano per fori conici DIN 9/B, HSS
Hand reamer for taper holes DIN 9/B, HSS

Art. 15639 GnuBo

Descrizione:
Alesatore a mano per fori conici in HSS, DIN 9/B. Conicità 1:50 per fori di spine coniche. Taglienti elicoidali, codolo cilindrico.
COD. 025 articolo ad esaurimento

ART. 15639

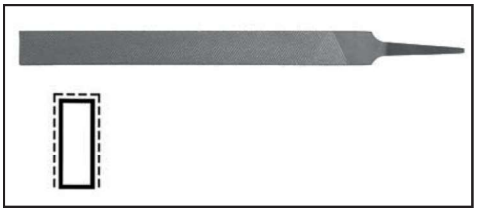
Dati tecnici / Technical data

cod. code	diam. nominale nominal diam. [mm]	diam. min. min. diam. [mm]	diam. max. max. diam. [mm]	quadro drive [mm]	lungh. taglienti cutting edges length [mm]	lungh. totale total length [mm]
15639025	**2,5**	2,4	3,36	2,5	48	68
15639030	**3,0**	2,9	4,06	3,15	58	80
15639040	**4,0**	3,9	5,26	4	68	93
15639050	**5,0**	4,9	6,36	5	73	100
15639060	**6,0**	5,9	8	6,3	105	135
15639065	**6,5**	6,4	8,6	6,3	110	140
15639080	**8,0**	7,9	10,8	8	145	180
15639100	**10,0**	9,9	13,4	10	175	215
15639120	**12,0**	11,8	16	11,2	210	280

Hand reamer for taper holes made in HSS, DIN 9/B.
Taper 1:50 for taper pins holes.
Elicoidal flutes, cylindrical shank.
Code 025: exhaustion of this item in stock.

Lima per meccanica piatta a mano
Machinists' hand file

Art. 15722 vallorbe SWISS



Descrizione:
Lima per meccanica piatta a mano.

Machinists' hand file.

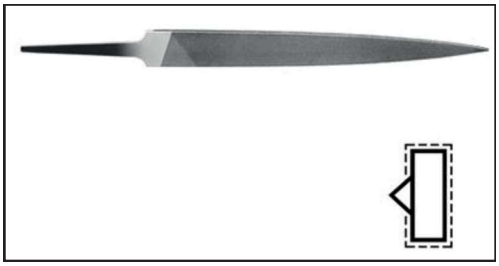
ART. 15722

Dati tecnici / Technical data

cod. code	lunghezza length ["]	lunghezza length [mm]	dimensioni dimensions [mm]	taglio cut
15722044	**4**	100	12x3	bastardo bastard
15722066	**4**	100	12x3	dolce smooth
15722088	**4**	100	12x3	mezzodolce second cut
15722110	**6**	150	16x3,5	bastardo bastard
15722132	**6**	150	16x3,5	dolce smooth
15722154	**6**	150	16x3,5	mezzodolce second cut
15722176	**8**	200	22x5	bastardo bastard
15722198	**8**	200	22x5	dolce smooth
15722220	**8**	200	22x5	mezzodolce second cut
15722242	**10**	250	25,3x6,3	bastardo bastard
15722264	**10**	250	25,3x6,3	dolce smooth
15722286	**10**	250	25,4x6,1	mezzodolce second cut
15722308	**12**	300	30,6x6,6	bastardo bastard
15722352	**12**	300	30,6x6,6	mezzodolce second cut

Lima per meccanica piatta a punta sottile
Machinists' warding thin file

Art. 15762 vallorbe SWISS



Descrizione:
Lima per meccanica piatta a punta sottile.

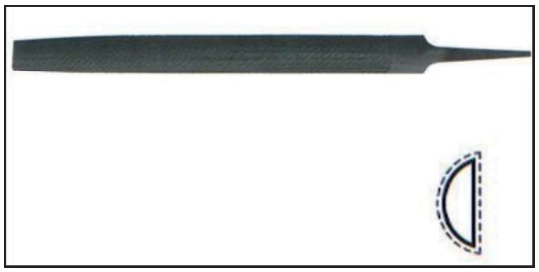
Machinists' warding thin file.

ART. 15762

Dati tecnici / Technical data

cod. code	lunghezza length ["]	lunghezza length [mm]	dimensioni dimensions [mm]	taglio cut	Z/cm^2
15762105	**6**	150	15,4x1,7	**00**	16

Lima per meccanica mezzotonda
Machinists' halfround file



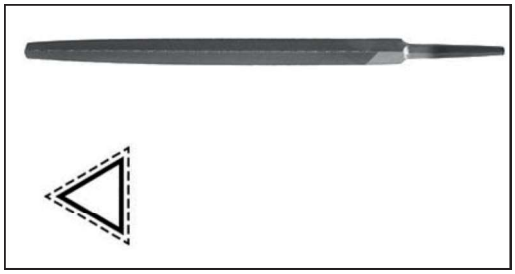
Art. 15782 vallorbe SWISS

ART. 15782				
Dati tecnici / Technical data				
cod. code	lunghezza length ["]	lunghezza length [mm]	dimensioni dimensions [mm]	taglio cut
15782044	**4**	100	12x4	bastardo bastard
15782088	**4**	100	12x4	mezzodolce second cut
15782110	**6**	150	16,3x5	bastardo bastard
15782132	**6**	150	16x4,7	dolce smooth
15782154	**6**	150	16,3x5	mezzodolce second cut
15782176	**8**	200	20,4x6	bastardo bastard
15782198	**8**	200	20,4x6	dolce smooth
15782220	**8**	200	20,5x6	mezzodolce second cut
15782264	**10**	250	24,9x7,3	dolce smooth

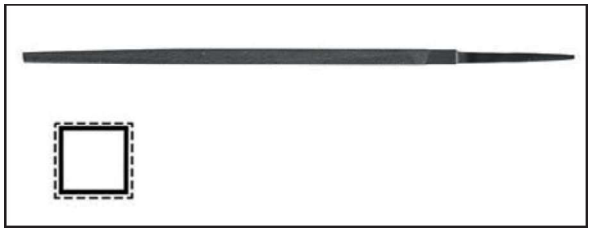
Lima per meccanica triangolare
Machinists' triangular file

ART. 15796				
Dati tecnici / Technical data				
cod. code	lunghezza length ["]	lunghezza length [mm]	dimensioni dimensions [mm]	taglio cut
15796066	**4**	100	9	dolce smooth
15796088	**4**	100	6,2	mezzodolce second cut
15796110	**6**	150	12,7	bastardo bastard
15796132	**6**	150	11	dolce smooth
15796154	**6**	150	11	mezzodolce second cut
15796176	**8**	200	14	bastardo bastard
15796198	**8**	200	14	dolce smooth
15796220	**8**	200	14	mezzodolce second cut
15796264	**10**	250	19	dolce smooth
15796286	**10**	250	17,5	mezzodolce second cut

Art. 15796 vallorbe SWISS



Lima per meccanica quadra
Machinists' square file

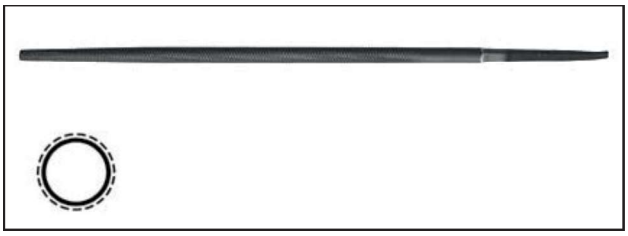


Art. 15808 vallorbe SWISS

ART. 15808				
Dati tecnici / Technical data				
cod. code	lunghezza length ["]	lunghezza length [mm]	dimensioni dimensions [mm]	taglio cut
15808066	**4**	100	3,6	dolce smooth
15808110	**6**	150	6	bastardo bastard
15808132	**6**	150	6	dolce smooth
15808154	**6**	150	6	mezzodolce second cut
15808176	**8**	200	7,7	bastardo bastard
15808198	**8**	200	7,7	dolce smooth
15808220	**8**	200	8	mezzodolce second cut
15808242	**10**	250	9,6	bastardo bastard
15808264	**10**	250	9,6	dolce smooth
15808308	**12**	300	12,2	bastardo bastard

Art. 15818 vallorbe SWISS

Lima per meccanica tonda
Machinists' round file

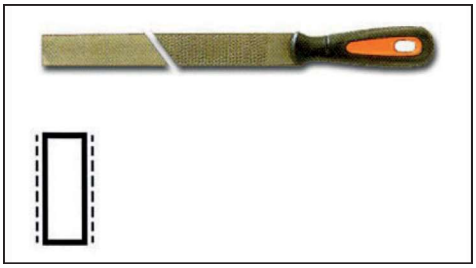


ART. 15818				
Dati tecnici / Technical data				
cod. code	lunghezza length ["]	lunghezza length [mm]	diametro diameter [mm]	taglio cut
15818110	**6**	150	6,3	bastardo bastard
15818132	**6**	150	6	dolce smooth
15818154	**6**	150	6	mezzodolce second cut
15818198	**8**	200	7,1	dolce smooth
15818220	**8**	200	8	mezzodolce second cut
15818242	**10**	250	10	bastardo bastard
15818264	**10**	250	9,2	dolce smooth
15818286	**10**	250	9,2	mezzodolce second cut
15818308	**12**	300	12	bastardo bastard

Lime - Raspe

Art. 15890 GnuBo

Raspa per legno piatta
Flat wood rasp



Descrizione:
Raspa per legno con manico tondo di forma piatta parallela con 2 lati tagliati: un lato a raspa a taglio bastardo, l'altro lato a taglio doppio mezzodolce.

Parallel flat shape wood rasp with round handle with 2 sides cut: one rasp bastard cut side and one second double cut side.

ART. 15890			
Dati tecnici / Technical data			
cod. code	lunghezza length ["]	lunghezza length [mm]	dimensioni dimensions [mm]
15890152	**8**	200	25x4

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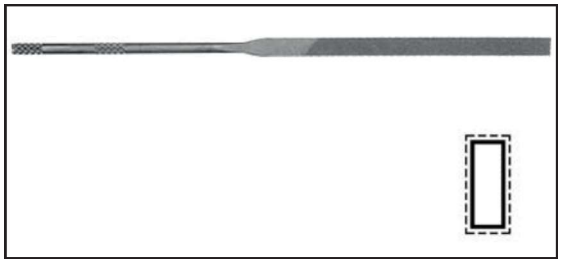
Lima ad ago piatta
Needle equaling file

Art. 15910 vallorbe SWISS



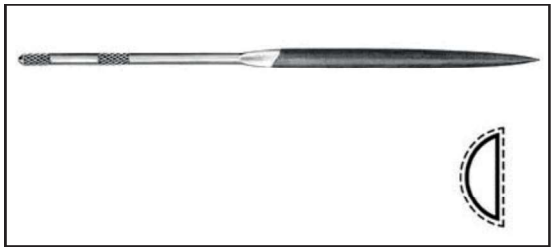
Descrizione:
Lima ad ago piatta con manico tondo.

Needle equaling file with round handle.

ART. 15910				
Dati tecnici / Technical data				
cod. code	lungh. totale total length [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	taglio cut
15910050	**200**	6,5x1,3	100	**00**
15910100	**200**	6,5x1,3	100	**0**
15910300	**200**	6,5x1,3	100	**2**

Lima ad ago mezzotonda
Needle halfround file

Art. 15920 vallorbe SWISS



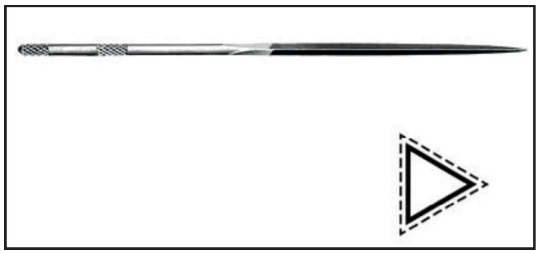
Descrizione:
Lima ad ago mezzotonda con manico tondo.

Needle halfround file with round handle.

ART. 15920				
Dati tecnici / Technical data				
cod. code	lungh. totale total length [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	taglio cut
15920050	**200**	6,3x2,0	100	**00**
15920100	**200**	6,3x2,0	100	**0**
15920300	**200**	6,3x2,0	100	**2**

Lima ad ago triangolare
Needle three-square file

Art. 15930 vallorbe SWISS



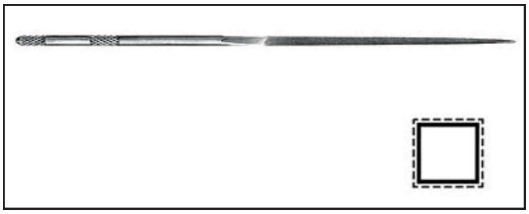
Descrizione:
Lima ad ago triangolare con manico tondo.

Needle three-square file with round handle.

ART. 15930				
Dati tecnici / Technical data				
cod. code	lungh. totale total length [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	taglio cut
15930050	**200**	4,4	100	**00**
15930100	**200**	4,4	100	**0**
15930200	**200**	4,4	100	**1**
15930300	**200**	4,4	100	**2**

Lima ad ago quadra
Needle square file

Art. 15940 vallorbe SWISS



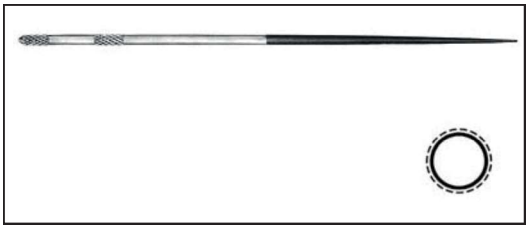
Descrizione:
Lima ad ago quadra con manico tondo.

Needle square file with round handle.

ART. 15940				
Dati tecnici / Technical data				
cod. code	lungh. totale total length [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	taglio cut
15940050	**200**	2,8	100	**00**
15940100	**200**	2,8	100	**0**
15940300	**200**	2,8	100	**2**

Lima ad ago tonda
Needle round file

Art. 15950 vallorbe SWISS



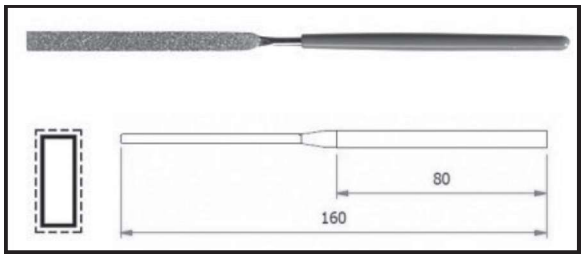
Descrizione:
Lima ad ago tonda con manico tondo.

Needle round file with round handle.

ART. 15950				
Dati tecnici / Technical data				
cod. code	lungh. totale total length [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	taglio cut
15950050	**200**	3,5	100	**00**
15950100	**200**	3,5	100	**0**
15950200	**200**	3,5	100	**1**
15950300	**200**	3,5	100	**2**

Lima ad ago diamantata piatta
Diamond needle equaling file

Art. 16005 GnuBo



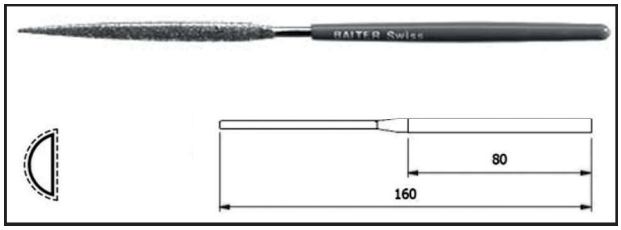
ART. 16005							
Dati tecnici / Technical data							
cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16005107	**160**	3	6,5 x 2	80	107	140/170	media finitura medium finishing
16005151	**160**	3	6,5 x 2	80	151	100/120	sgrossatura roughing

Descrizione:
Lima manuale, serie ad ago diamantata, forma piatta.

Diamond needle equaling manual file.

Lima ad ago diamantata mezzatonda
Diamond needle halfround file

Art. 16008 GnuBo



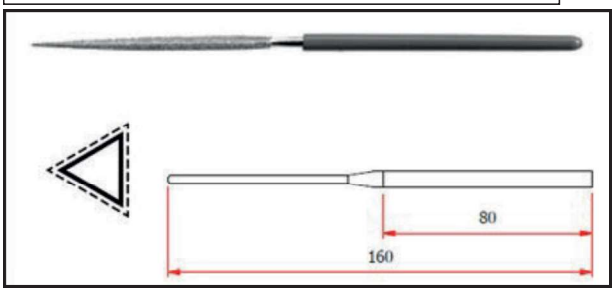
Descrizione:
Lima ad ago diamantata mezzotonda con manico tondo.

Diamond needle halfround file with round handle.

ART. 16008							
Dati tecnici / Technical data							
cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16008107	**160**	3	6,5x2	80	107	140/170	media finitura medium finishing
16008151	**160**	3	6,5x2	80	151	100/120	sgrossatura roughing

Lima ad ago diamantata triangolare
Diamond needle three-square file

Art. 16011 GnuBo



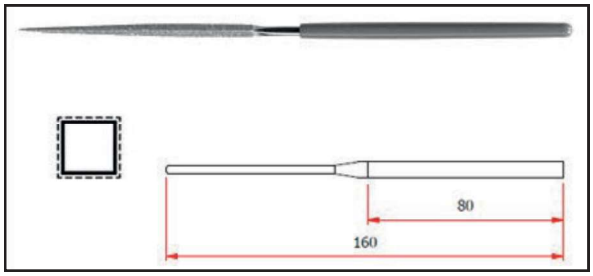
Descrizione:
Lima ad ago diamantata triangolare.

Diamond needle three-square file.

ART. 16011							
Dati tecnici / Technical data							
cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16011107	**160**	3	4	80	*107*	*140/170*	*media finitura medium finishing*
16011151	**160**	3	4	80	*151*	*100/120*	*sgrossatura roughing*

Lima ad ago diamantata quadra
Diamond needle square file

Art. 16014 GnuBo



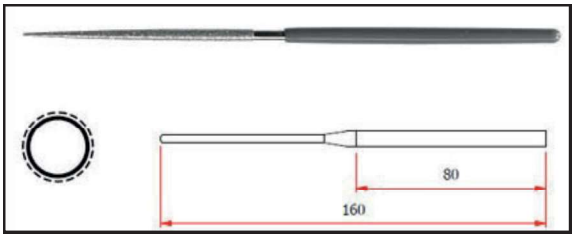
Descrizione:
Lima ad ago diamantata quadra.

Diamond needle square file.

ART. 16014							
Dati tecnici / Technical data							
cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16014107	**160**	3	3 x 3	80	107	140/170	media finitura medium finishing
16014151	**160**	3	3 x 3	80	151	100/120	sgrossatura roughing

Lima ad ago diamantata tonda
Diamond needle round file

Art. 16017 GnuBo



Descrizione:
Lima ad ago diamantata tonda.

Diamond needle round file.

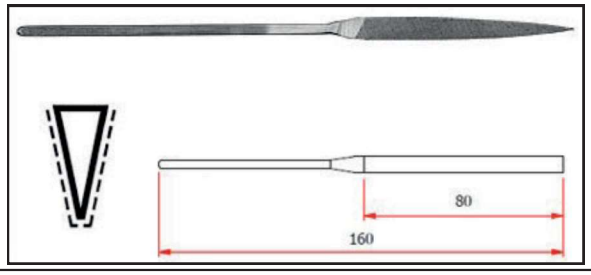
ART. 16017							
Dati tecnici / Technical data							
cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	diametro diameter [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16017107	**160**	3	3,5	80	107	140/170	media finitura medium finishing
16017151	**160**	3	3,5	80	151	100/120	sgrossatura roughing

Lima ad ago diamantata a coltello
Diamond needle knife file

Art. 16020 GnuBo

Descrizione:
Lima ad ago diamantata a coltello.

Diamond needle knife file.

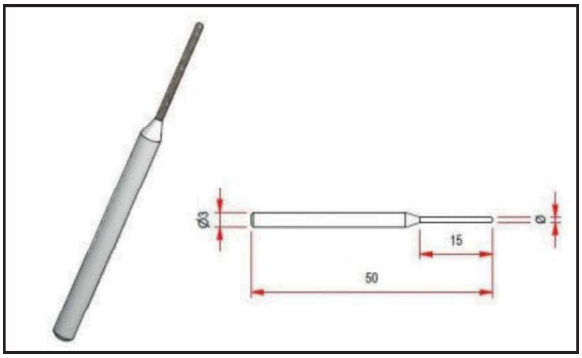


ART. 16020
Dati tecnici / Technical data

cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16020107	**160**	3	1,8 x 6	80	*107*	*140/170*	*media finitura medium finishing*
16020151	**160**	3	1,8 x 6	80	*151*	*100/120*	*sgrossatura roughing*

Lima diamantata tonda per macchine manuali
Diamond round file for manual machines

Art. 16060 GnuBo



Descrizione:
Lima diamantata tonda per macchine manuali. Grana D126.

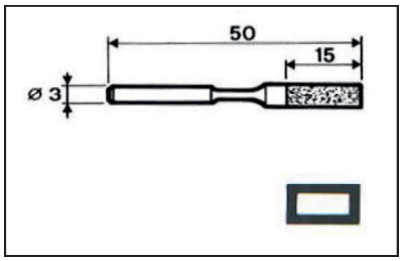
Diamond round file for manual machines. Grain D126.

ART. 16060
Dati tecnici Technical data

cod. code	ø [mm]
16060100	**1**
16060200	**2**
16060300	**3**

Lima ad ago diamantata piatta per macchine Diprofil
Diamond needle equaling file for Diprofil machine

Art. 16063 GnuBo



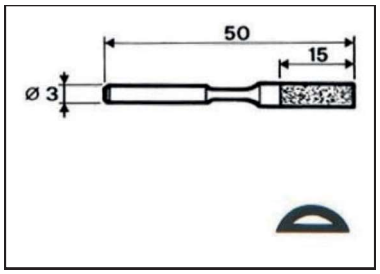
ART. 16063
Dati tecnici / Technical data

cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16063351	**50**	3	**3x1**	15	151	100/120	sgrossatura roughing
16063451	**50**	3	**4x1**	15			
16063551	**50**	3	**5x2**	15			

Descrizione:
Lima ad ago diamantata piatta per macchine Diprofil. Diamond needle equaling file for Diprofil machine.

Lima ad ago diamantata mezzotonda per macchine Diprofil
Diamond needle halfround file for Diprofil machine

Art. 16072 GnuBo



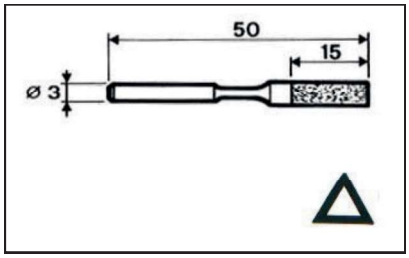
ART. 16072
Dati tecnici / Technical data

cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16072151	**50**	3	**3x1,5**	15	151	100/120	sgrossatura roughing

Descrizione:
Lima ad ago diamantata mezzotonda per macchine Diprofil.
Diamond needle halfround file for Diprofil machine.

Lima ad ago diamantata triangolare per macchine Diprofil
Diamond needle three-square file for Diprofil machine

Art. 16081 GnuBo



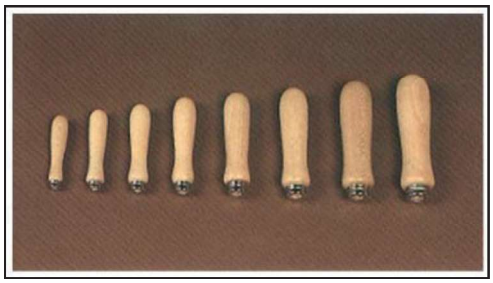
ART. 16081
Dati tecnici / Technical data

cod. code	lungh. totale total length [mm]	diam. gambo shank diam. [mm]	dimensioni dimensions [mm]	lungh. taglio cut length [mm]	granulometria grain FEPA	granulometria grain MESH	utilizzo use
16081151	**50**	3	**3**	15	151	100/120	sgrossatura roughing

Descrizione:
Lima ad ago diamantata triangolare per macchine Diprofil.
Diamond needle three-square file for Diprofil machine

Manico in legno cerato con ghiera
Waxed wood handle with ring

Art. 16513 GnuBo



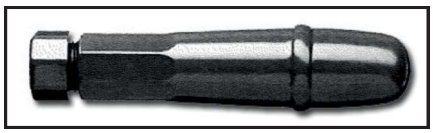
Descrizione:
Manico in legno cerato con ghiera per lime.

Waxed wood handle with ring for files.

ART. 16513				
Dati tecnici / Technical data				
cod. code	misura size	lunghezza length [mm]	lunghezza lime files' length ["]	[mm]
16513090	1	90	4 - 6	100 - 150
16513100	2	100	4 - 6	100 - 150
16513110	3	110	6 - 8	150 - 200
16513120	4	120	8 - 10	200 - 250
16513130	5	130	8 - 12	200 - 300
16513140	6	140	10 - 12	250 - 300

Manico in plastica per lime ad ago
Plastic handle for needle files

Art. 16537 vallorbe SWISS



Descrizione:
Manico in plastica per lime ad ago.

Plastic handle for needle files.

Cod.16537111

GNUTTI BORTOLO :
LA SOLUZIONE AI TUOI
BISOGNI INDUSTRIALI

Serie - Serie di lime

Serie di 3 lime per meccanica Trio
3 machinists' Trio file set

Art. 16560 vallorbe SWISS

Descrizione:
Serie di 3 lime per meccanica Trio. Lunghezza mm 130, taglio mezzodolce.

3 machinists' Trio file set.
Length mm 130, second cut.

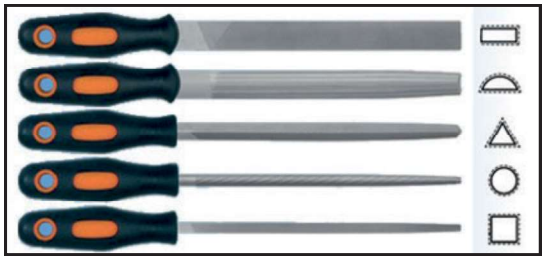
ART. 16560554			
Dati tecnici / Technical data			
descrizione description	lunghezza length [mm]	dimensioni dimensions [mm]	taglio cut
lima per seghe saw file	130	15 x 2,8	mezzodolce second cut
lima quadra square file	130	6	mezzodolce second cut
lima tonda round file	130	5,5	mezzodolce second cut

Serie di 5 lime per meccanica
5 machinist's files set

Art. 16570 vallorbe SWISS

Descrizione:
Serie di 5 lime per meccanica con manici tondi in legno. Lunghezza mm 200, taglio mezzodolce.

5 machinist's files set with wooden round handles. Length mm 200, second cut.



ART. 16570200			
Dati tecnici / Technical data			
cod. GB GB code	descrizione description	lunghezza length ["] - [mm]	dimensioni dimensions [mm]
15722220	piatta a mano hand files	8 - 200	**22x5**
15782220	mezzotonda halfround	8 - 200	**21x6**
15796220	triangolare three-square	8 - 200	**14**
15808220	quadra square	8 - 200	**8**
15818220	tonda round	8 - 200	**8**

Serie di 12 lime ad ago
12 needle files set

Art. 16575 vallorbe SWISS

Descrizione:
Serie di 12 lime ad ago, taglio 2. Confezionata in busta di plastica.

12 needle files set, cut 2. Packaged in plastic pouch.

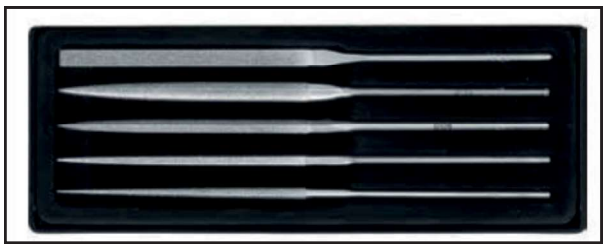
ART. 16575260				
Dati tecnici / Technical data				
cod. GB GB code	descrizione description	lunghezza length [mm]	lungh. taglio cut length [mm]	dimensioni dimensions [mm]
15910300	piatta equalling	160	80	**5,4x1,2**
-	piatta a punta flat	160	80	**5,4x1,2**
15920300	mezzotonda halfround	160	80	**5,6x1,7**
15930300	triangolare three-square	160	80	**3,8**
15940300	quadra square	160	80	**2,4**
15950300	tonda round	160	80	**2,9**
-	coltello knife	160	80	**5,4x1,5**
-	mandorla crossing	160	80	**5,1x2**
-	piatta con bordi tondi joint	160	80	**5,4x1,3**
-	ovale oval	160	80	**3,9x2,5**
-	piatta a punta, bordi tondi crochet	160	80	**5,4x1,3**
-	barretta barrette	160	80	**5,1x1,8**

Serie di 5 lime ad ago diamantate
5 diamond needle files set

Art. 16590 vallorbe SWISS

Descrizione:
Serie di 5 lime ad ago diamantate, granulometria FEPA D126 per media finitura.

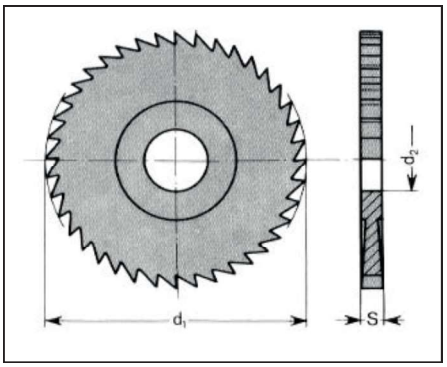
5 diamond needle files set, diamond grit size FEPA D126 for medium finishing.



ART. 16590156		
Dati tecnici / Technical data		
descrizione description	lunghezza length [mm]	dimensioni dimensions [mm]
piatta equalling	140	**4,8 x 1,1**
mezzotonda halfround	140	**5,1 x 1,5**
triangolare three-square	140	**3,5**
quadra square	140	**2,2**
tonda round	140	**2,8**

Sega circolare a dentatura fine DIN 1837, HSS
Circular saw with fine pitch DIN 1837, HSS

Art. 16610 GnuBo



Descrizione:
Sega circolare a dentatura fine DIN 1837.
Materiale HSS.

Circular saw with fine pitch, DIN 1837.
Material HSS.

ART. 16610

Dati tecnici / Technical data

*: articolo ad esaurimento / exhaustion of this item in stock

cod. code	d_1 [mm]	S [mm]	d_2 [mm]	n° denti teeth n°	cod. code	d_1 [mm]	S [mm]	d_2 [mm]	n° denti teeth n°
16610033	**32**	0,8	8	64	16610283	**80**	1,0	22	100
16610035	**32**	0,5	8	80	16610288	**80**	1,2	22	100
16610038	**32**	1,0	8	64	16610293	**80**	1,5	22	100
16610043	**32**	1,5	8	48	16610298	**80**	1,6	22	100
16610048	**30**	2,0	8	48	16610303	**80**	2,0	22	80
16610053	**40**	0,3	10	100	16610308	**80**	2,5	22	80
16610058	**40**	0,5	10	80	16610313	**80**	3,0	22	80
16610068	**40**	0,8	10	80	16610318	**80**	3,5	22	80
16610073	**40**	1,0	10	64	16610323	**80**	4,0	22	64
16610078	**40**	1,5	10	64	16610328	**80**	5,0	22	64
16610083	**40**	2,0	10	48	16610333	**80**	6,0	22	64
16610088	**40**	3,0	10	48	16610336	**100**	0,5	22	160
16610093	**40**	4,0	10	40	16610338	**100**	0,6	22	160
16610098	**40**	6,0	10	40	16610348	**100**	0,8	22	128
16610103	**50**	0,3	13	128	16610353	**100**	1,0	22	128
16610108	**50**	0,4	13	100	16610358	**100**	1,2	22	128
16610113	**50**	0,5	13	100	16610368	**100**	1,5	22	128
16610123	**50**	0,8	13	80	16610373	**100**	1,6	22	100
16610128	**50**	1,0	13	80	16610378	**100**	2,0	22	100
16610133	**50**	1,2	13	80	16610383	**100**	2,5	22	100
16610138	**50**	1,5	13	64	16610388	**100**	3,0	22	80
16610143	**50**	2,0	13	64	16610398	**100**	4,0	22	80
16610148	**50**	2,5	13	64	16610403	**100**	5,0	22	80
16610153	**50**	3,0	13	48	16610408	**100**	6,0	22	64
16610158	**50**	4,0	13	48	16610413	**125**	0,6	22	160
16610163	**50**	5,0	13	48	16610423	**125**	1,0	22	160
16610168	**50**	6,0	13	40	16610428	**125**	1,2	22	128
16610173	**63**	0,3	16	128	16610433	**125**	1,5	22	128
16610178	**63**	0,4	16	128	16610438	**125**	1,6	22	128
16610183	**63**	0,5	16	128	16610443	**125**	2,0	22	128
16610188	**63**	0,6	16	100	16610448	**125**	2,5	22	100
16610198	**63**	0,8	16	100	16610453	**125**	3,0	22	100
16610208	**63**	1,0	16	100	16610458	**125**	3,5	22	100
16610213	**63**	1,2	16	80	16610463	**125**	4,0	22	100
16610218	**63**	1,5	16	80	16610465	**125**	5,0	22	80
16610223	**63**	2,0	16	80	16610468	**125**	6,0	22	80
16610228	**63**	2,5	16	64	16610478	**160**	1,0	32	160
16610233	**63**	3,0	16	64	16610483	**160**	1,2	32	160
16610238	**63**	3,5	16	64	16610488	**160**	1,5	32	160
16610243	**63**	4,0	16	64	16610493	**160**	2,0	32	128
16610248	**63**	5,0	16	48	16610498	**160**	2,5	32	128
16610253	**63**	6,0	16	48	16610503	**160**	3,0	32	128
16610258	**80**	0,4	22	160	16610508	**160**	4,0	32	100
16610263	**80**	0,5	22	128	16610513	**160**	5,0	32	100
16610268	**80**	0,6	22	128	16610518	**160**	6,0	32	100
16610278	**80**	0,8	22	128	16610543*	**175**	3,0	32	128
					16610548	**200**	1,0	32	200
					16610553	**200**	1,2	32	200
					16610558	**200**	1,5	32	200

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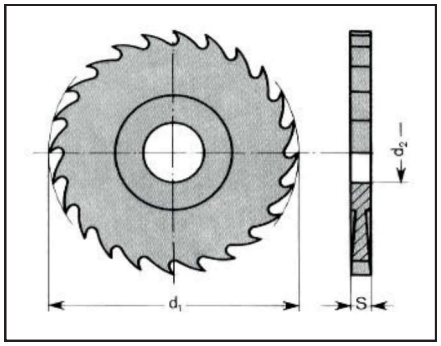
Sega circolare a dentatura grossa DIN 1838, HSS
Circular saw with coarse pitch DIN 1838, HSS

Art. 16616 GnuBo



Descrizione:
Sega circolare a dentatura grossa DIN 1838. Materiale HSS.

Circular saw with coarse pitch, DIN 1838.

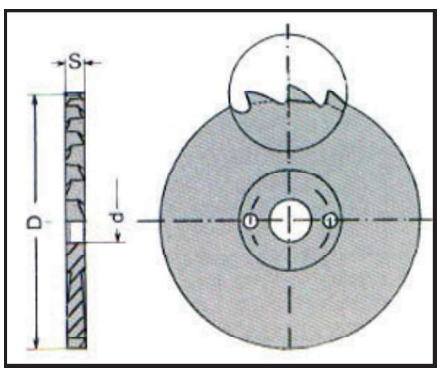
ART. 16616

Dati tecnici / Technical data

cod. code	d_1 [mm]	S [mm]	d_2 [mm]	n° denti teeth n°	cod. code	d_1 [mm]	S [mm]	d_2 [mm]	n° denti teeth n°
16616163	**50**	4,0	13	24	16616368	**100**	1,5	22	64
16616167	**50**	5,0	13	24	16616378	**100**	2,0	22	48
16616208	**63**	1,0	16	48	16616383	**100**	2,5	22	48
16616213	**63**	1,2	16	40	16616388	**100**	3,0	22	40
16616218	**63**	1,5	16	40	16616398	**100**	4,0	22	40
16616223	**63**	2,0	16	40	16616403	**100**	5,0	22	40
16616233	**63**	3,0	16	32	16616423	**125**	1,0	22	80
16616243	**63**	4,0	16	32	16616428	**125**	1,2	22	64
16616248	**63**	5,0	16	24	16616433	**125**	1,5	22	64
16616283	**80**	1,0	22	48	16616443	**125**	2,0	22	64
16616288	**80**	1,2	22	48	16616448	**125**	2,5	22	48
16616293	**80**	1,5	22	48	16616453	**125**	3,0	22	48
16616303	**80**	2,0	22	40	16616478	**160**	1,0	32	80
16616308	**80**	2,5	22	40	16616483	**160**	1,2	32	80
16616313	**80**	3,0	22	40	16616488	**160**	1,5	32	80
16616323	**80**	4,0	22	32	16616494	**160**	2,0	32	64
16616327	**80**	6,0	22	32	16616498	**160**	2,5	32	64
16616334	**100**	0,5	22	100	16616503	**160**	3,0	32	64
16616353	**100**	1,0	22	64	16616510	**160**	4,0	32	48

Sega circolare standard, HSS-Mo
Standard circular saw, HSS-Mo

Art. 16628 GnuBo



Descrizione:
Sega circolare standard. Materiale HSS al molibdeno.

Standard circular saw. Material HSS with molybdenum.

ART. 16628

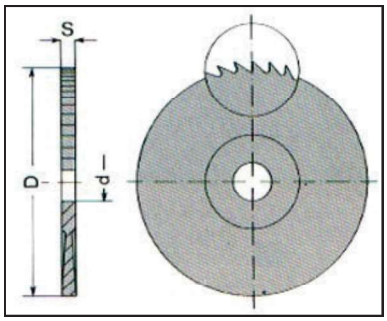
Dati tecnici / Technical data

cod. code	D [mm]	S [mm]	d [mm]	n° denti teeth n°	fori di trascinamento pinholes
16628115	**200**	1,8	32	100	2.8.45+2.11.63+2.9.50
16628124	**200**	1,8	32	160	2.8.45+2.11.63+2.9.50
16628127	**200**	1,8	32	200	2.8.45+2.11.63+2.9.50
16628130	**200**	2,0	32	100	2.8.45+2.11.63+2.9.50
16628133	**200**	2,0	32	130	2.8.45+2.11.63+2.9.50
16628139	**200**	2,0	32	160	2.8.45+2.11.63+2.9.50
16628190	**250**	1,5/1,6 *	32	100	2.8.45+2.11.63+2.9.50
16628196	**250**	1,5/1,6 *	32	160	2.8.45+2.11.63+2.9.50
16628199	**250**	1,5/1,6 *	32	200	2.8.45+2.11.63+2.9.50
16628205	**250**	2,0	32	100	2.8.45+2.11.63+2.9.50
16628211	**250**	2,0	32	160	2.8.45+2.11.63+2.9.50
16628214	**250**	2,0	32	200	2.8.45+2.11.63+2.9.50
16628235	**250**	2,5	32	100	2.8.45+2.11.63+2.9.50
16628241	**250**	2,5	32	160	2.8.45+2.11.63+2.9.50
16628313	**275**	2,5	32	140	2.8.45+2.11.63+2.9.50
16628379	**300**	2,5	32	160	2.8.45+2.11.63+2.9.50

* tolleranza +0,1 mm sullo spessore
* tollerance +0,1 mm on thickness

Sega circolare per ottone, HSS-Mo
Circular saw for brass, HSS-Mo

Art. 16634 GnuBo



Descrizione:
Sega circolare in HSS al molibdeno con denti di forma BW per tubi e profilati di ottone e bronzo.

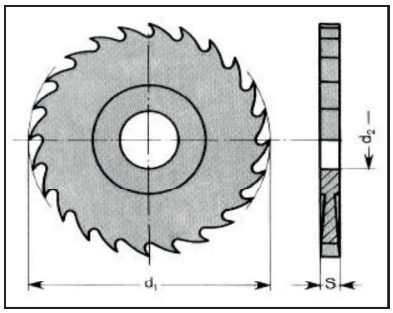
Circular saw made of HSS with molybdenum with teeth form BW for brass and bronze pipes and profiles.

ART. 16634
Dati tecnici / Technical data

cod. code	D [mm]	S [mm]	d [mm]	n° denti teeth n°
16634528	**175**	1,2	32	72
16634553	**200**	1,2	32	64
16634560	**200**	1,6	32	64

Sega circolare con riporto HM per alluminio
Circular saw with carbide tip for aluminium

Art. 16642 GnuBo



Descrizione:
Sega circolare per metalli non ferrosi, alluminio e sue leghe. Materiale acciaio 80CrV2 con riporto in carburo WK20.

Circular saw for non ferrous metals, aluminium and its alloys. Material steel 80CrV2 with carbide tip WK20.

ART. 16642
Dati tecnici / Technical data

cod. code	diametro diameter [mm]	spessore thikcness [mm]	diam. foro hole's diam. [mm]	n° denti n° teeth
16642388	100	3	22	24
16642391	100	3,2	22	24

Seghe circolari, a tazza, a nastro - Seghe a tazza

Sega a tazza, HSS
Hollow cutter, HSS

Art. 16662 GnuBo

Descrizione:
Sega a tazza indicata per la foratura di spessori sottili fino a mm 5.
Codolo cilindrico e triangolo di trascinamento.

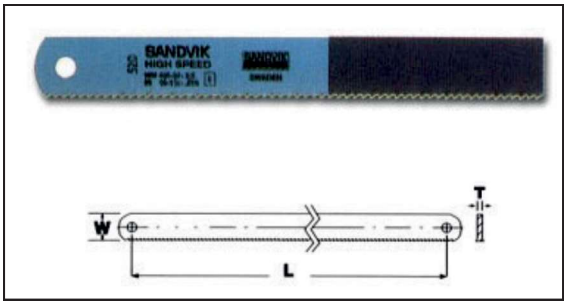
Hollow cutter for drilling thickness up to mm 5. Cylindrical shank, dragging triangle.

ART. 16662
Dati tecnici / Technical data

cod. code	diam. nominale nominal diam. [mm]	diam. punta drill's diam. [mm]	diam. mandrino chuck's diam. [mm]	cod. code	diam. nominale nominal diam. [mm]	diam. punta drill's diam. [mm]	diam. mandrino chuck's diam. [mm]
16662140	**14**	5	7	16662350	**35**	6	9
16662150	**15**	5	7	16662360	**36**	6	9
16662160	**16**	5	7	16662370	**37**	6	9
16662170	**17**	5	7	16662380	**38**	6	9
16662180	**18**	5	7	16662390	**39**	6	9
16662190	**19**	5	7	16662400	**40**	6	9
16662200	**20**	6	9	16662410	**41**	8	10
16662210	**21**	6	9	16662420	**42**	8	10
16662220	**22**	6	9	16662430	**43**	8	10
16662230	**23**	6	9	16662440	**44**	8	10
16662240	**24**	6	9	16662450	**45**	8	10
16662241	**24**	6	0	16662460	**46**	0	10
16662250	**25**	6	9	16662470	**47**	8	10
16662260	**26**	6	9	16662480	**48**	8	10
16662270	**27**	6	9	16662490	**49**	8	10
16662280	**28**	6	9	16662500	**50**	8	10
16662290	**29**	6	9	16662510	**51**	8	10
16662300	**30**	6	9	16662520	**52**	8	10
16662310	**31**	6	9	16662600	**60**	8	10
16662320	**32**	6	9	16662650	**65**	8	12
16662330	**33**	6	9	16662700	**70**	8	12
16662340	**34**	6	9				

Sega bimetallica per macchine
Bimetallic machine saw

Art. 16682 GnuBo



Descrizione:
Sega bimetallica per macchine.
Cod. 123 e 351 articoli ad esaurimento.

Bimetallic machine saw.
Codes 123 and 351: exhaustion of this items in stock.

ART. 16682
Dati tecnici / Technical data

cod. code	L [mm]	W [mm]	T [mm]	n° denti x pollice n° teeth per inch
16682159	**400**	32	1,60	6
16682171	**400**	38	2,00	6
16682183	**450**	32	1,60	6
16682207	**450**	38	2,00	6
16682219	**500**	38	2,00	6
16682243	**500**	50	2,50	6
16682267	**550**	50	2,50	6
16682291	**600**	50	2,50	6
16682315	**650**	50	2,50	6
16682351	**750**	63	3,00	4

Sega a nastro bimetallica
Bimetal band saw

Art. 16688 GnuBo

Descrizione:
Sega a nastro bimetallica con dentatura standard per il taglio di diversi tipi di metalli: dall'alluminio all'acciaio inossidabile.

Bimetal band saw with standard teeth to cut several kind of metals: from aluminium to inox steel.

ART. 16688
Dati tecnici / Technical data

cod. code	sviluppo tot. length [mm]	altezza height [mm]	spessore thikcness [mm]	n° denti x pollice n° teeth per inch
16688123	**1140**	13	0,6	8/12
16688145	**1335**	13	0,6	8/12
16688167	**1750**	13	0,9	6/10
16688189	**2000**	20	0,9	6/10
16688211	**2140**	20	0,9	6/10
16688233	**2465**	20	0,9	6/10
16688240	**2465**	27	0,9	6/10
16688245	**2565**	27	0,9	4/6
16688247	**2770**	27	0,9	4/6
16688255	**3660**	34	1,1	3/4

Barra d'acciaio per utensili 1.2516
Bar of tool steel 1.2516

Art. 16716 GnuBo

Descrizione:
Barra d'acciaio per utensili UNI 100 W 4 KU, Nr 1.2516, DIN 120 W V 4. Fornito allo stato ricotto con durezza < HB 230, rettificato h8. Punti critici Ac1=750°C; Ms=200°C. Tempra in olio a 820°C. Può essere fornito anche acciaio 1.2210 a seconda della disponibilità di magazzino. Lunghezza barre metri 2.

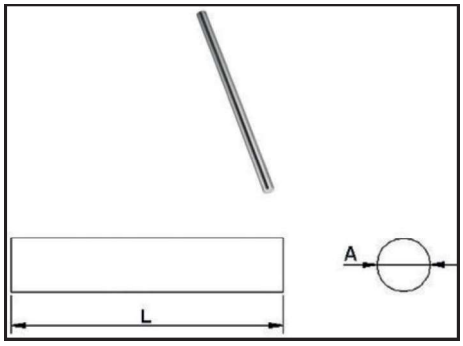
Bar of tool steel UNI 100 W 4 KU, Nr 1.2516, DIN 120 W V 4. Tempered with hardness < HB 230, ground h8. Critical points Ac1=750°C; Ms=200°C. Oil-hardening at 820°C. We can supply tool steel 1.2210 according to stock availability. Bar's length m 2.

ART. 16716
Dati tecnici / Technical data

cod. code	diametro diameter h8 [mm]	peso specifico specific weight [kg/m]	cod. code	diametro diameter h8 [mm]	peso specifico specific weight [kg/m]
16716040	**4**	0,100	16716150	**15**	1,400
16716050	**5**	0,155	16716160	**16**	1,700
16716060	**6**	0,250	16716170	**17**	1,800
16716070	**7**	0,300	16716180	**18**	2,000
16716080	**8**	0,400	16716200	**20**	2,550
16716090	**9**	0,650	16716220	**22**	3,050
16716100	**10**	0,700	16716250	**25**	4,000
16716110	**11**	0,750	16716300	**30**	5,700
16716120	**12**	0,900	16716350	**35**	8,000
16716130	**13**	1,170	16716400	**40**	10,000
16716140	**14**	1,250			

Barretta a sezione tonda, HSS-Co WKE45
Round toolbit, HSS-Co WKE45

Art. 16766 GnuBo



Descrizione:
Barretta a sezione tonda in HSS-Co tipo WKE45 ad alto contenuto di cobalto (11%), durezza HRC 58 - 60, tolleranza h9. Per lavorare acciaio inox austenitico, acciaio al Ni-Cr, acciaio per utensili, superleghe tipo Nimonic.

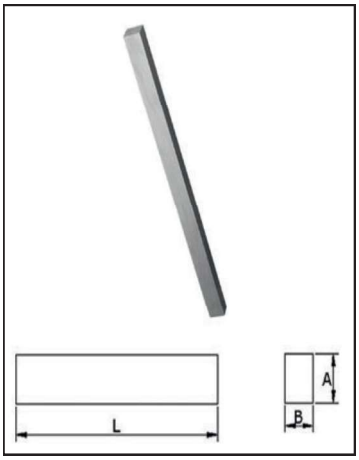
Round toolbit made in HSS-Co, type WKE45, with high cobalt content (11%), hardness HRC 58 - 60, tolerance h9. To work austenitic inox steel, Ni-Cr steel, tool steel, superalloys such as Nimonic.

ART. 16766
Dati tecnici
Technical data

cod. code	A [mm]	L [mm]
16766100	**3**	100
16766120	**4**	100
16766140	**5**	100
16766155	**6**	100
16766175	**8**	100
16766200	**10**	100
16766220	**12**	100
16766320	**18**	100

Barretta a sezione rettangolare, HSS-Co con WC T2000S
Rectangular toolbit, HSS-Co with WC T2000S

Art. 16780 IMPERO PRAMET DORMER PRAMET



Descrizione:
Barretta a sezione rettangolare in HSS-Co con 12% di cobalto e carburi di tungsteno, tipo T2000S. Per lavorazione su macchine automatiche e pantografi.
Durezza HRC 64 - 66, elevata resistenza all'usura anche a temparature elevate.

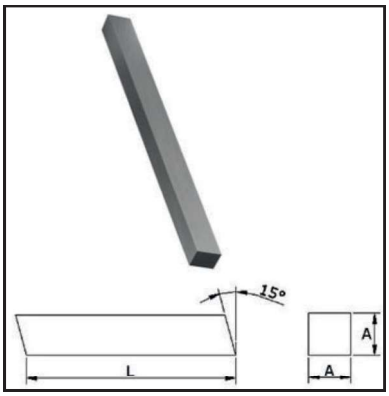
Rectangular toolbit in HSS-Co with 12 of cobalt and tungsten carbides, type T2000S. For use on automatic machines and pantographes.
Hardness HRC 64 - 66, high wear resistance even if at high temperature.

ART. 16780
Dati tecnici / Technical data

cod. code	B [mm]	A [mm]	L [mm]	cod. code	B [mm]	A [mm]	L [mm]
16780100	**3**	10	200	16780260	**5**	30	200
16780120	**3**	12	200	16780270	**6**	8	150
16780130	**3**	15	150	16780280	**6**	10	200
16780140	**3**	15	200	16780300	**6**	12	200
16780160	**3**	20	200	16780310	**6**	15	200
16780180	**4**	12	200	16780320	**6**	20	200
16780185	**4**	15	200	16780340	**8**	10	200
16780200	**4**	30	200	16780360	**8**	25	200
16780218	**5**	10	200	16780380	**10**	20	200
16780220	**5**	15	200	16780400	**10**	30	200
16780240	**5**	25	200	16780520	**12**	25	200

Barretta a sezione quadra, HSS-Co con WC T2000S
Square toolbit, HSS-Co with WC T2000S

Art. 16783 IMPERO PRAMET DORMER PRAMET



Descrizione:
Barretta a sezione quadra in HSS-Co con 12% di cobalto e carburi di tungsteno, tipo T2000S. Per lavorazione su macchine automatiche e pantografi. Durezza HRC 64 - 66, elevata resistenza all'usura anche a temparature elevate.

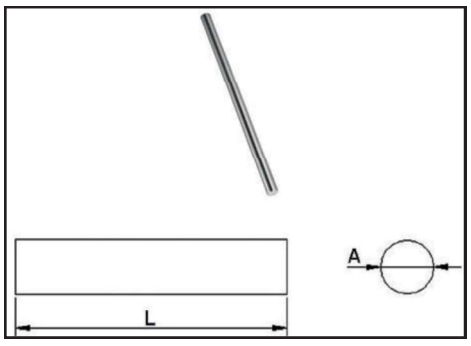
Square toolbit in HSS-Co with 12 of cobalt and tungsten carbides, type T2000S. For use on automatic machines and pantographes.
Hardness HRC 64 - 66, high wear resistance even if at high temperature.

ART. 16783
Dati tecnici
Technical data

cod. code	A [mm]	L [mm]
16783140	**6**	200
16783145	**8**	200
16783165	**10**	200
16783170	**12**	200
16783176	**14**	200
16783178	**16**	200
16783180	**18**	200
16783200	**20**	200

Barretta a sezione tonda, HSS-Co con WC T2000S
Round toolbit, HSS-Co with WC T2000S

Art. 16786 IMPERO PRAMET DORMER PRAMET



Descrizione:
Barretta a sezione tonda in HSS-Co con 12% di cobalto e carburi di tungsteno, tipo T2000S. Per lavorazione su macchine automatiche e pantografi. Durezza HRC 64 - 66, elevata resistenza all'usura anche a temparature elevate.

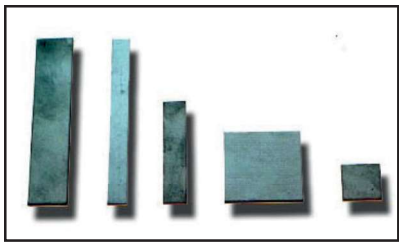
Round toolbit in HSS-Co with 12 of cobalt and tungsten carbides, type T2000S. For use on automatic machines and pantographes.
Hardness HRC 64 - 66, high wear resistance even if at high temperature.

ART. 16786
Dati tecnici /

cod. code	A [mm]	L [mm]
16786105	**3**	200
16786112	**4**	200
16786122	**5**	200
16786132	**6**	200
16786136	**7**	200
16786140	**8**	200
16786150	**10**	200
16786160	**12**	200
16786170	**14**	200
16786180	**15**	200
16786190	**16**	200
16786195	**18**	200
16786200	**20**	200

Barretta per fresatura in metallo duro MG20
Hard metal toolbit for milling MG20

Art. 16820



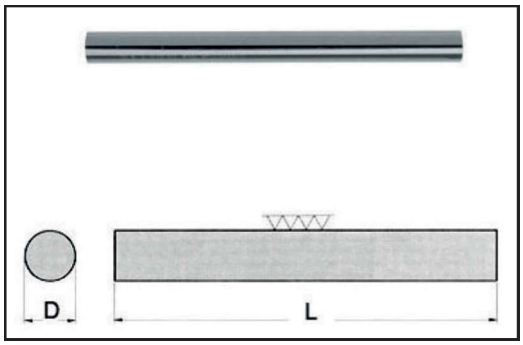
Descrizione:
Barretta grezza per fresatura in metallo duro MG20.

Hard metal rough toolbit for milling MG20.

ART. 16820			
Dati tecnici / Technical data			
cod. code	spessore thickness [mm]	larghezza width [mm]	lunghezza length [mm]
16820109	2	10	60
16820131	2	10	100
16820219	3	6	60
16820241	3	8	15
16820263	3	8	100
16820285	3	10	20
16820307	3	10	60
16820329	3	10	100
16820351	3	12	12
16820395	3	12	60
16820417	3	12	100
16820461	3	16	16
16820483	3	16	25
16820527	3	16	100
16820593	3	20	100
16820681	4	7	60
16820703	4	20	50
16820769	5	16	40
16820791	5	16	60
16820813	5	20	60

Cilindretto in metallo duro MG20
Hard metal cylinder MG20

Art. 16823



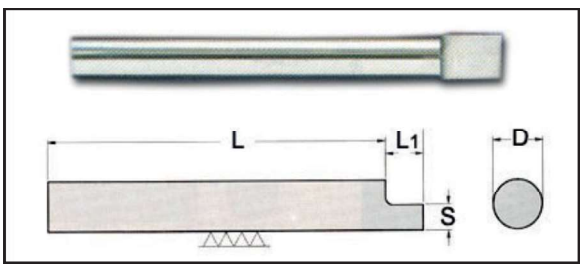
Descrizione:
Cilindretto in metallo duro MG20, lappato e rettificato.

Hard metal cylinder MG20, ground and lapped.

ART. 16823		
Dati tecnici Technical data		
cod. code	D [mm]	L [mm]
16823123	2	40
16823157	3	40
16823191	3	100
16823225	4	100
16823259	4	159
16823293	5	100
16823327	6	100
16823361	6	159
16823395	8	100
16823429	8	159
16823463	10	100
16823497	10	159
16823531	12	100
16823565	14	100

Bulino in metallo duro MG20 con ribassamento
Hard metal burin MG20 with stubbling

Art. 16826



Descrizione:
Bulino in metallo duro MG20 con ribassamento, lappato e rettificato.

Hard metal burin MG20 with stubbling, ground and lapped.

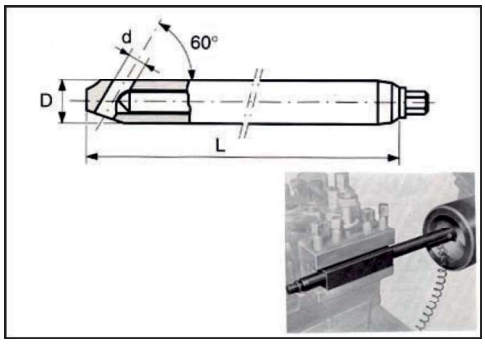
ART. 16826				
Dati tecnici / Technical data				
cod. code	D [mm]	L [mm]	L1 [mm]	S [mm]
16826123	4	100	7	2
16826157	5	100	8	2,5
16826191	6	100	9	3
16826225	8	100	11	4
16826259	10	100	13	5
16826293	12	100	15	6
16826327	14	100	17	7
16826361	16	100	19	8

Inserti per tornitura - Portautensili per tornitura

Barra di alesaggio SI a 60°
SI 60° boring bar

Art. 17055 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Barra di alesaggio SI a 60° per utensili dal cod. 17236 al cod. 17331.

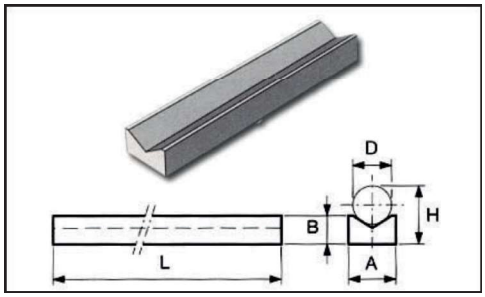
SI 60° boring bar for tools from code 17236 to code 17331.

Art. 17055				
Dati tecnici / Technical data				
cod. code	tipo kind	D [mm]	L [mm]	d [mm]
17055040	**SI - 10 - 04**	10	180	4
17055050	**SI - 12 - 05**	12	200	5
17055070	**SI - 16 - 07**	16	250	7
17055080	**SI - 20 - 08**	20	300	8
17055100	**SI - 25 - 10**	25	350	10
17055120	**SI - 32 - 12**	32	400	12

Base di appoggio BG per barre di alesaggio
BG vee holder for boring bars

Art. 17057 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Base di appoggio BG per barra di alesaggio SI, cod. 17055.

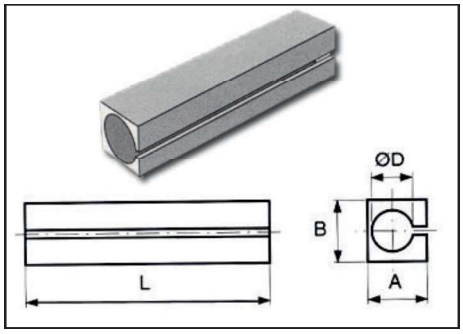
BG vee holder for SI boring bar, code 17055.

Art. 17057						
Dati tecnici / Technical data						
cod. code	tipo kind	A [mm]	B [mm]	D [mm]	L [mm]	H [mm]
17057060	**BG-6-1012**	14	8	10 - 12	90	15,5 - 17,5

Bussola P90 per barre di alesaggio
P90 bushing for boring bars

Art. 17059 IMPERO PRAMET

DORMER PRAMET



Descrizione:
Bussola P90 per barra di alesaggio SI, cod. 17055.

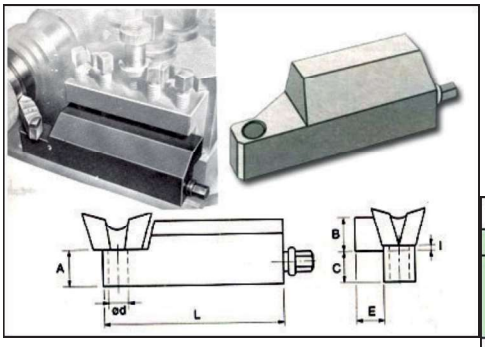
P90 bushing for boring bar SI, code 17055.

Art. 17059						
Dati tecnici / Technical data						
cod. code	tipo kind	A [mm]	B [mm]	D [mm]	L [mm]	
17059100	**P90-1616-10**	16	16	10	75	
17059110	**P90-1616-12**	16	16	12	75	
17059120	**P90-2020-12**	20	20	12	100	
17059160	**P90-2020-16**	20	20	16	100	
17059200	**P90-2525-20**	25	25	20	100	
17059250	**P90-3030-25**	30	30	25	130	
17059320	**P90-3937-32**	39	37	32	140	

Portautensili PTR per tornitura esterna
PTR holder for external turning

Art. 17078 IMPERO PRAMET

DORMER PRAMET



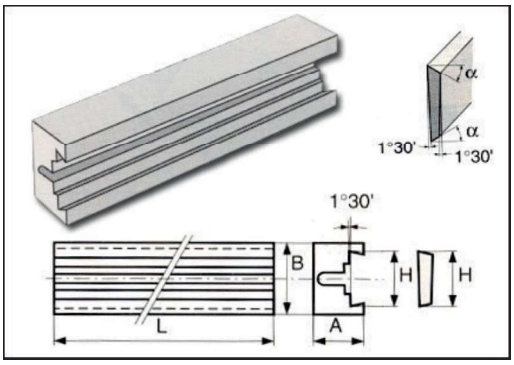
Descrizione:
Portautensili PTR per tornitura esterna per utensili orientabili dal cod. 17122 al cod. 17210, utilizzabile su qualsiasi torretta P3/70.

PTR holder for external turning for rotary tools from code 17122 to code 17210, suitable for any P3/70 tool-post.

Art. 17078									
Dati tecnici / Technical data									
cod. code	tipo kind	d [mm]	A [mm]	B [mm]	C [mm]	E [mm]	L [mm]	I [mm]	tipo torretta tool-post kind
17078120	**PTR-1815-12**	12	24	18	20	15	140	4	A
17078140	**PTR-2118-14**	14	30	21	26	18	135	4	B
17078160	**PTR-2424-16**	16	31	24	25	24	150	6	C
17078180	**PTR-3030-18**	18	40	30	33	30	240	7	D

Morsetto MLT per lame a sezione trapezoidale
MLT holder for trapezoidal cutting-off blades

Art. 17092 IMPERO DORMER PRAMET



Descrizione:
Morsetto MLT per lame a sezione trapezoidale dal cod. 17500 al cod. 17555.

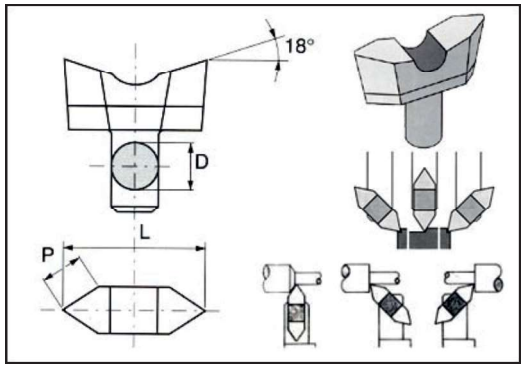
MLT holder for trapezoidal cutting-off blades from code 17500 to code 17555.

Art. 17092						
Dati tecnici / Technical data						
cod. code	tipo kind	A [mm]	B [mm]	H [mm]	L [mm]	α
17092100	**MLT-1612-LM10**	12	16	10	100	15°
17092130	**MLT-2014-LM13**	14	20	13	110	15°
17092170	**MLT-2518-LM17**	18	25	17	120	15°
17092200	**MLT-3020-LM20**	20	30	20	125	15°
17092230	**MLT-3422-LU23**	22	34	23,5	130	30°

Inserti per tornitura - Utensili per tornitura

Utensile orientabile AB in HSS 222S
AB rotary tool in HSS 222S

Art. 17122 IMPERO DORMER PRAMET



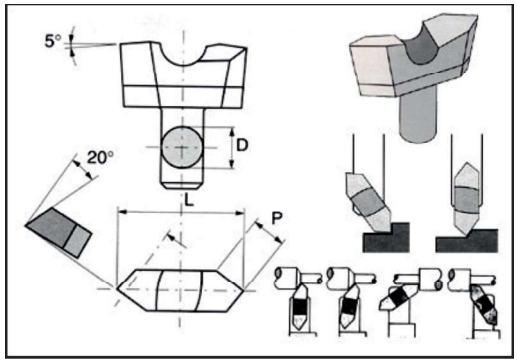
Descrizione:
Utensile orientabile AB per tornitura esterna, limatrice e pialla con o senza refrigerante. Acciaio HSS 222S al tungsteno con 10% di cobalto.

AB rotary tool for external turning, shaping and planing with or without coolant. Tungsten HSS 222S with 10% cobalt.

Art. 17122				
Dati tecnici / Technical data				
cod. code	tipo kind	D [mm]	P [mm]	L [mm]
17122140	**AB-14**	14	14	45
17122160	**AB-16**	16	16	56

Utensile orientabile AC in HSS 222S
AC rotary tool in HSS 222S

Art. 17126 IMPERO DORMER PRAMET



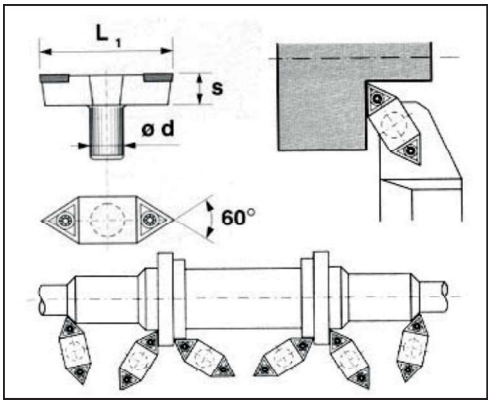
Descrizione:
Utensile orientabile AC per tornitura esterna, limatrice e pialla con o senza refrigerante. Acciaio HSS 222S al tungsteno con 10% di cobalto.

AC rotary tool for external turning, shaping and planing with or without coolant. Tungsten HSS 222S with 10% cobalt.

Art. 17126				
Dati tecnici / Technical data				
cod. code	tipo kind	D [mm]	P [mm]	L [mm]
17126160	**AC-16**	16	16	56

Utensile orientabile M26S per inserti di forma T
M26S rotary tool for T form inserts

Art. 17166 IMPERO DORMER PRAMET



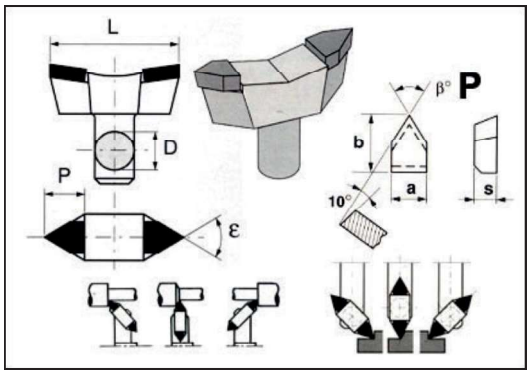
Descrizione:
Utensile orientabile M26S per tornitura esterna con inserti di forma TC (TCGT e TCMT).

M26S rotary tool for external turning with TC form inserts (TCGT and TCMT).

Art. 17166				
Dati tecnici / Technical data				
cod. code	tipo kind	d [mm]	s [mm]	L_1 [mm]
17166140	**M26S-RL14-TC16**	14	15	46
17166160	**M26S-RL16-TC16**	16	17	54

Utensile orientabile FB con placchetta HM M3
FB rotary tool with HM M3 tip

Art. 17177 IMPERO DORMER PRAMET



Descrizione:
Utensile orientabile FB per tornitura esterna, limatrice e pialla, con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

FB rotary tool for external turning, shaping and planing, with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

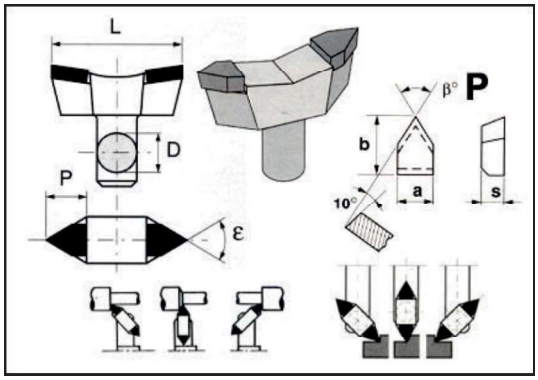
Art. 17178

Dati tecnici / Technical data

cod. code	tipo kind	D [mm]	L [mm]	ε	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17178100	**FB-10**	10	35	65°	FB 10	7	10	3,5	65°
17178120	**FB-12**	12	44	65°	FB 12	8	13	4	65°
17178140	**FB-14**	14	52	65°	FB 14	9	14	5	65°
17178160	**FB-16**	16	58	65°	FB 16	11	16	6	65°
17178180	**FB-18**	18	69	65°	FB 18	14	20	7	65°

Utensile orientabile FB con placchetta HM KX2
FB rotary tool with HM KX2 tip

Art. 17178 IMPERO DORMER PRAMET



Descrizione:
Utensile orientabile FB per tornitura esterna, limatrice e pialla, con placchetta HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio.

FB rotary tool for external turning, shaping and planing, with HM tip. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminum alloys at high cutting speed.

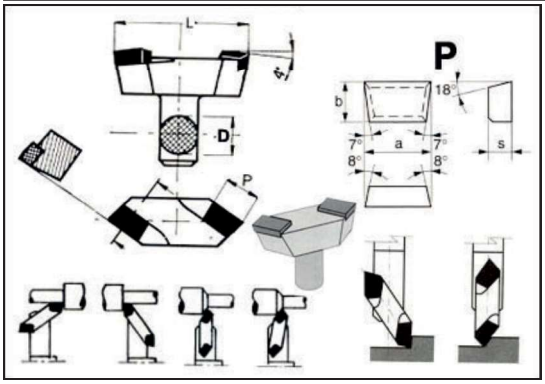
Art. 17177

Dati tecnici / Technical data

cod. code	tipo kind	D [mm]	L [mm]	ε	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17177100	**FB-10**	10	35	65°	FB 10	7	10	3,5	65°
17177120	**FB-12**	12	44	65°	FB 12	8	13	4	65°
17177140	**FB-14**	14	52	65°	FB 14	9	14	5	65°
17177160	**FB-16**	16	58	65°	FB 16	11	16	6	65°
17177180	**FB-18**	18	69	65°	FB 18	14	20	7	65°

Utensile orientabile FC con placchetta HM M3
FC rotary tool with HM M3 tip

Art. 17188 IMPERO DORMER PRAMET



Descrizione:
Utensile orientabile FC per tornitura esterna, limatrice e pialla, con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

FC rotary tool for external turning, shaping and planing, with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17188

Dati tecnici / Technical data

cod. code	tipo kind	D [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17188120	**FC-12**	12	44	ABC 12	12	8	5
17188140	**FC-14**	14	52	ABC 12	12	8	5
17188160	**FC-16**	16	58	ABC 16	16	10	6

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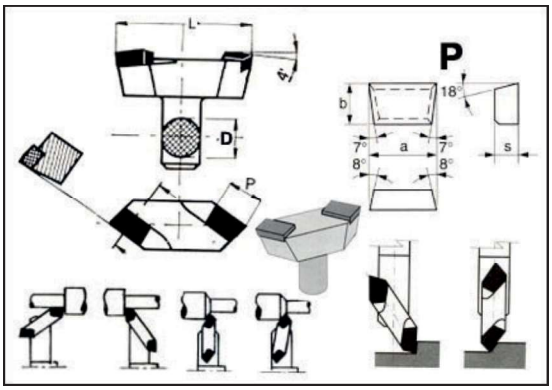
Utensile orientabile FC con placchetta HM KX2
FC rotary tool with HM KX2 tip

Art. 17189

IMPERO DORMER PRAMET



Art. 17189

Dati tecnici / Technical data

cod. code	tipo kind	D [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17189120	**FC-12**	12	44	ABC 12	12	8	5
17189140	**FC-14**	14	52	ABC 12	12	8	5
17189160	**FC-16**	16	58	ABC 16	16	10	6

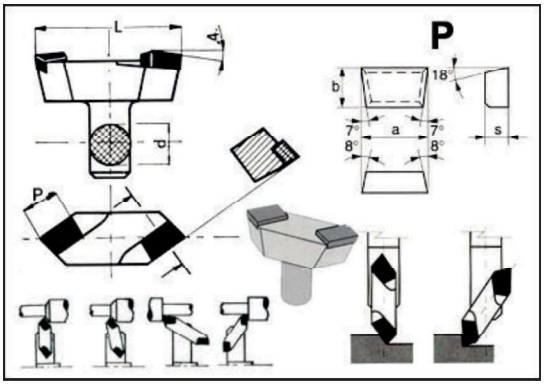
Descrizione:
Utensile orientabile FC per tornitura esterna, limatrice e pialla, con placchetta HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio.

FC rotary tool for external turning, shaping and planing, with HM tip. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminum alloys at high cutting speed.

Utensile orientabile FCS con placchetta HM M3
FCS rotary tool with HM M3 tip

Art. 17195

IMPERO DORMER PRAMET



Descrizione:
Utensile
orientabile FCS per tornitura esterna, limatrice e pialla, con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

FCS rotary tool for external turning, shaping and planing, with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17195

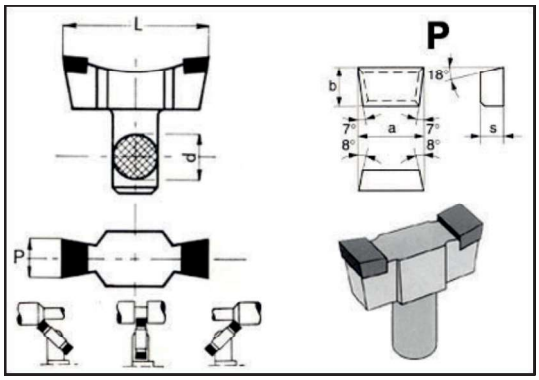
Dati tecnici / Technical data

cod. code	tipo kind	D [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17195140	**FCS-14**	14	52	ABC 12	12	8	5
17195160	**FCS-16**	16	58	ABC 16	16	10	6

Utensile orientabile ST con placchetta HM M3
ST rotary tool with HM M3 tip

Art. 17200

IMPERO DORMER PRAMET



Descrizione:
Utensile orientabile ST per tornitura esterna e troncatura con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

ST rotary tool for external turning and cutting-off with HM tip. Not coated universal

Art. 17200

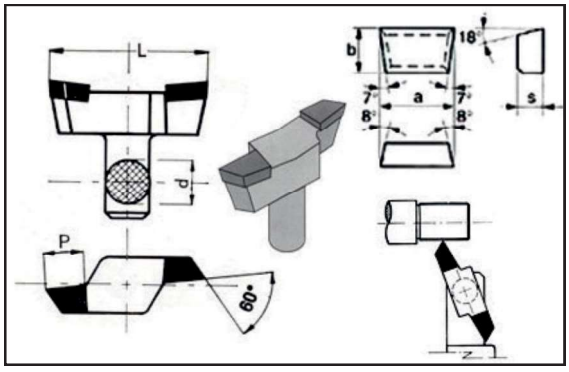
Dati tecnici / Technical data

cod. code	tipo kind	D [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17200140	**ST-14**	14	46	ABC 12	12	8	5
17200160	**ST-16**	16	56	ABC 16	16	10	6

Utensile orientabile F.60° con placchetta HM M3
F.60° rotary tool with HM M3 tip

Art. 17210

IMPERO DORMER PRAMET



Descrizione:
Utensile F.60° per filettatura esterna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

F.60° rotary tool for external threading with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

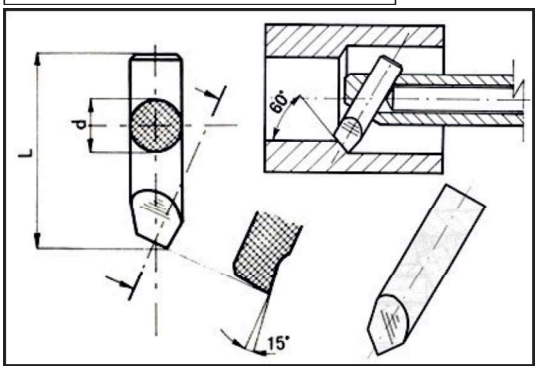
Art. 17210

Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17210120	**F.60°-12**	12	43	ABC 12	12	8	5	60°

Utensile B3 in HSS 222S
B3 tool in HSS 222S

Art. 17236 IMPERO DORMER PRAMET



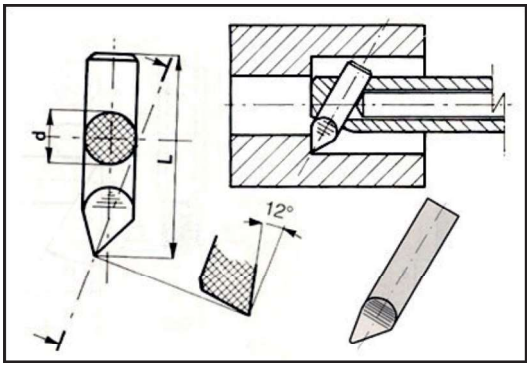
Descrizione:
Utensile B3 per tornitura interna con o senza refrigerante. Acciaio HSS 222S al tungsteno con 10% di cobalto.
Cod. 050: articolo ad esaurimento.

B3 tool for internal turning with or without coolant. Tungsten HSS 222S with 10% cobalt.
Code 050: exhaustion of this item in stock.

Art. 17236			
Dati tecnici / Technical data			
cod. code	tipo kind	d [mm]	L [mm]
17236040	**B3-04**	4	18
17236050	**B3-05**	5	22
17236070	**B3-07**	7	30
17236080	**B3-08**	8	40
17236100	**B3-10**	10	50
17236120	**B3-12**	12	60

Utensile B4 in HSS 222S
B4 tool in HSS 222S

Art. 17240 IMPERO DORMER PRAMET



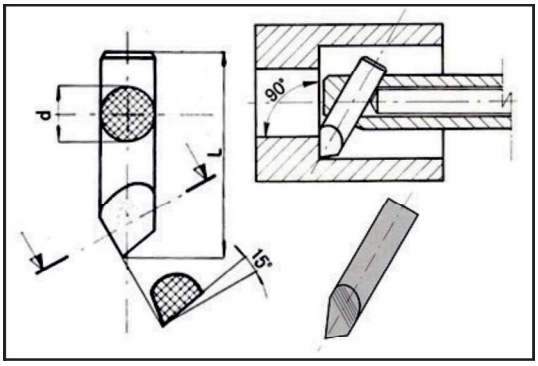
Descrizione:
Utensile B4 per tornitura interna con o senza refrigerante. Acciaio HSS 222S al tungsteno con 10% di cobalto.

B4 tool for internal turning with or without coolant. Tungsten HSS 222S with 10% cobalt.

Art. 17240			
Dati tecnici / Technical data			
cod. code	tipo kind	d [mm]	L [mm]
17240040	**B4-04**	4	18
17240050	**B4-05**	5	22
17240070	**B4-07**	7	30
17240080	**B4-08**	8	40
17240100	**B4-10**	10	50
17240120	**B4-12**	12	60

Utensile B5 in HSS 222S
B5 tool in HSS 222S

Art. 17244 IMPERO DORMER PRAMET



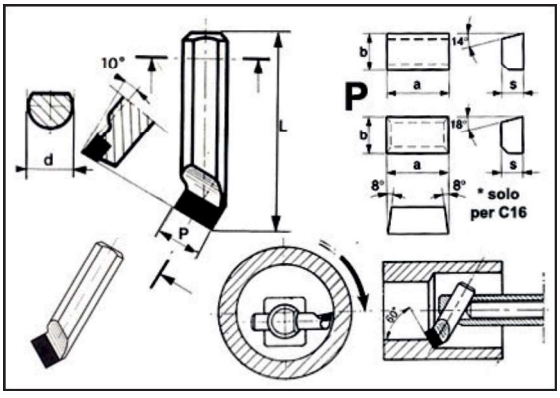
Descrizione:
Utensile B5 per tornitura interna con o senza refrigerante.
Acciaio HSS 222S al tungsteno con 10% di cobalto.

B5 tool for internal turning with or without coolant.
Tungsten HSS 222S with 10% cobalt.

Art. 17244			
Dati tecnici / Technical data			
cod. code	tipo kind	d [mm]	L [mm]
17244100	**B5-10**	10	50
17244120	**B5-12**	12	60

Utensile C3 con placchetta HM M3
C3 tool with HM M3 tip

Art. 17248 IMPERO DORMER PRAMET



Descrizione:
Utensile C3 per tornitura interna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio. Cod. 220 articoli ad esaurimento.

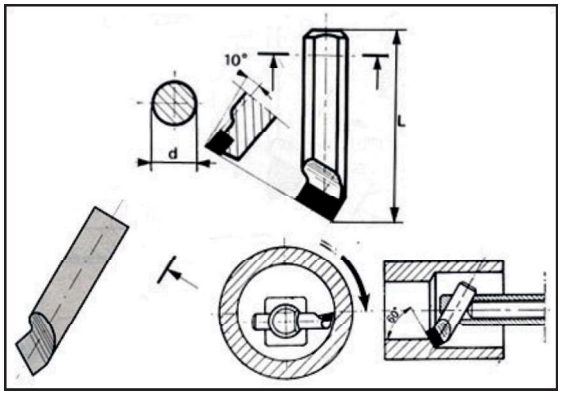
C3 tool for internal turning with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.
Code 220: exhaustion of these items in stock.

Art. 17248							
Dati tecnici / Technical data							
cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17248070	**C3-07**	7	26	C7	7	5	2,5
17248080	**C3-08**	8	30	C7	7	5	2,5
17248100	**C3-10**	10	45	C8	8	5	3
17248120	**C3-12**	12	55	C10	10	6	4

Utensile C3T totalmente in HM M3
C3T tool totally in HM M3

Art. 17249

IMPERO DORMER PRAMET



Descrizione:
Utensile C3T per tornitura interna totalmente in HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

C3T tool for internal turning totally in HM. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17249			
Dati tecnici / Technical data			
cod. code	tipo kind	d [mm]	L [mm]
17249040	**C3T-04**	4	18
17249050	**C3T-05**	5	20

Utensile C3T totalmente in HM KX2
C3T tool totally in HM KX2

Art. 17253

IMPERO DORMER PRAMET

Descrizione:
Utensile C3T per tornitura interna totalmente in HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio. STESSA IMMAGINE DI 17249.

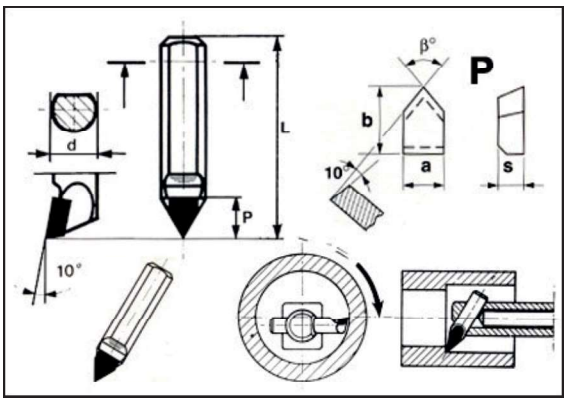
C3T tool for internal turning totally in HM. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminium alloys at high cutting speed. Same image as 17249.

Art. 17253			
Dati tecnici / Technical data			
cod. code	tipo kind	d [mm]	L [mm]
17253040	**C3T-04**	4	18

Utensile C4 con placchetta HM M3
C4 tool with HM M3 tip

Art. 17255

IMPERO DORMER PRAMET



Descrizione:
Utensile C4 per tornitura interna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.
Cod. 220: articoli ad esaurimento

C4 tool for internal turning with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.
Code 220: exhaustion of these items in stock.

Art. 17255								
Dati tecnici / Technical data								
cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17255070	**C4-07**	7	26	E8-IMP	4	8	3	80°
17255080	**C4-08**	8	30	E8-IMP	4	8	3	80°
17255100	**C4-10**	10	45	E10-IMP	5	10	3	80°

Utensile C4 con placchetta HM KX2
C4 tool with HM KX2 tip

Art. 17256

IMPERO DORMER PRAMET

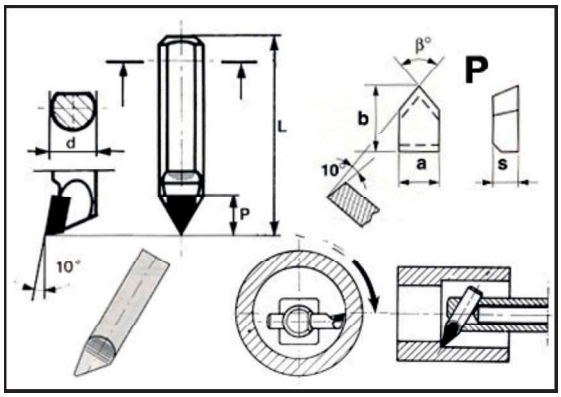
Descrizione:
Utensile C4 per tornitura interna con placchetta HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio. STESSA IMMAGINE DI 17255.

C4 tool for internal turning with HM tip. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminium alloys at high cutting speed. Same image as 17255.

Art. 17256								
Dati tecnici / Technical data								
cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17256080	**C4-08**	8	30	E8-IMP	4	8	3	80°
17256120	**C4-12**	12	55	E12-IMP	6	12	3	80°

Utensile C4T totalmente in HM KX2
C4T tool totally in HM KX2

Art. 17260 IMPERO DORMER PRAMET



Descrizione:
Utensile C4T per tornitura interna totalmente in HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio.

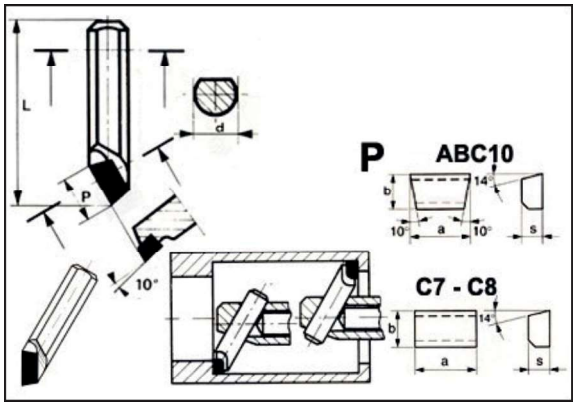
C4T tool for internal turning totally in HM. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminium alloys at high cutting speed.

Art. 17260
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]
17260050	**C4T-05**	5	20

Utensile C5 con placchetta HM M3
C5 tool with HM M3 tip

Art. 17265 IMPERO DORMER PRAMET



Descrizione:
Utensile C5 per tornitura interna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

C5 tool for internal turning with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17265
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17265070	**C5-07**	7	26	C7	7	5	2,5
17265080	**C5-08**	8	30	C7	7	5	2,5
17265100	**C5-10**	10	45	C8	8	5	3

Utensile C5 con placchetta HM KX2
C5 tool with HM KX2 tip

Art. 17266 IMPERO DORMER PRAMET

Descrizione:
Utensile C5 per tornitura interna con placchetta HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio. Stessa immagine di 17265.

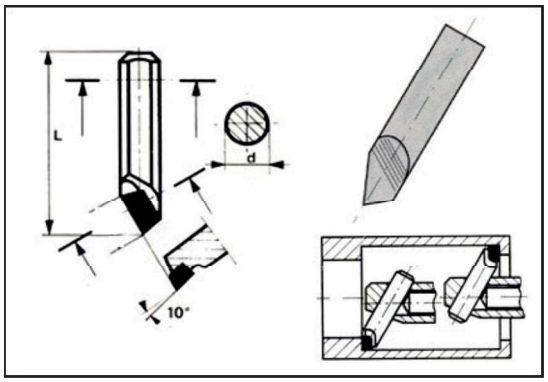
C5 tool for internal turning with HM tip. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminium alloys at high cutting speed.Same image as 17265.

Art. 17266
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17266070	**C5-07**	7	26	C7	7	5	2,5
17266080	**C5-08**	8	30	C7	7	5	2,5
17266120	**C5-12**	12	55	ABC 10	10	6	4

Utensile C5T totalmente in HM M3
C5T tool totally in HM M3

Art. 17268 IMPERO DORMER PRAMET



Descrizione:
Utensile C5T per tornitura interna totalmente in HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

C5T tool for internal turning totally in HM. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17268
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]
17268040	**C5T-04**	4	18
17268050	**C5T-05**	5	20

Utensile C5T totalmente in HM KX2
C5T tool totally in HM KX2

Art. 17269 IMPERO DORMER PRAMET

Descrizione:
Utensile C5T per tornitura interna totalmente in HM. Qualità non rivestita KX2 per acciaio temprato, ghisa dura, materiali duri e abrasivi a medie e basse medie velocità di taglio, leghe di alluminio ad alte velocità di taglio. Stessa immagine di 17268.

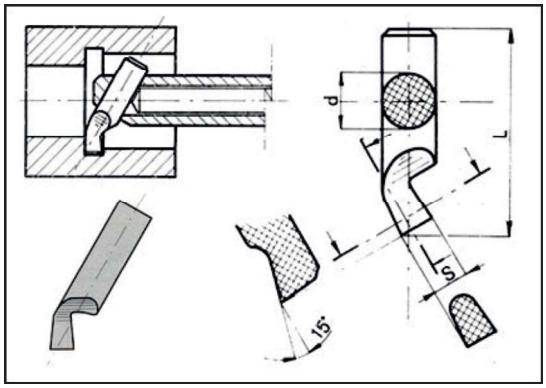
C5T tool for internal turning totally in HM. Not coated quality KX2 for hardened steel, hard cast iron, hard and abrasive materials at medium and low cutting speed, aluminum alloys at high cutting speed.Same image as 17268.

Art. 17269
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]
17269040	**C5T-04**	4	18
17269050	**C5T-05**	5	20

Utensile B1 in HSS 222S
B1 tool in HSS 222S

Art. 17300 IMPERO DORMER PRAMET



Descrizione:
Utensile B1 per scanalatura interna con o senza refrigerante. Acciaio HSS 222S al tungsteno con 10% di cobalto.

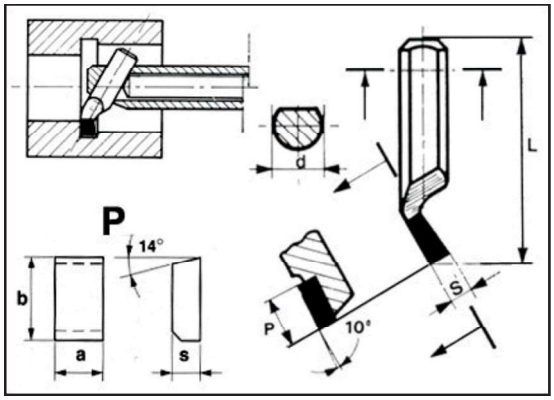
B1 tool for internal grooving with or without coolant. Tungsten HSS 222S with 10% cobalt.

Art. 17300
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	S [mm]
17300070	**B1-07**	7	30	4,5
17300100	**B1-10**	10	50	6,5
17300120	**B1-12**	12	60	8

Utensile C1 con placchetta HM M3
C1 tool with HM M3 tip

Art. 17305 IMPERO DORMER PRAMET



Descrizione:
Utensile C1 per scanalatura interna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

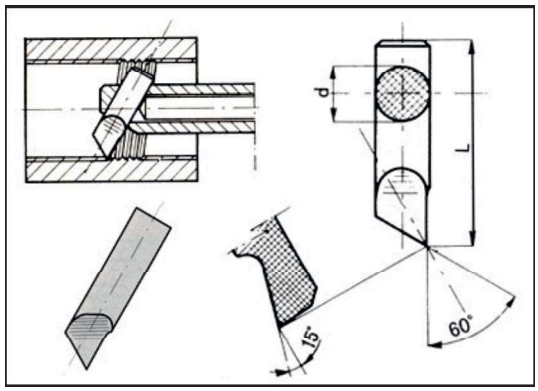
C1 tool for internal grooving with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17305
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	S [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17305070	**C1-07**	7	26	3	GOR 3	3,5	6	2,5
17305080	**C1-08**	8	30	3	GOR 3	3,5	6	2,5
17305100	**C1-10**	10	45	4	GOR 4	4,5	8	3
17305120	**C1-12**	12	55	5	GOR 5	5,5	10	3,5

Utensile B2/60° in HSS 222S
B2/60° tool in HSS 222S

Art. 17315 IMPERO DORMER PRAMET



Descrizione:
Utensile B2/60° per filettatura interna 60° con o senza refrigerante. Acciaio HSS 222S al tungsteno con 10% di cobalto.

B2/60° tool for internal threading 60° with or without coolant. Tungsten HSS 222S with 10% cobalt.

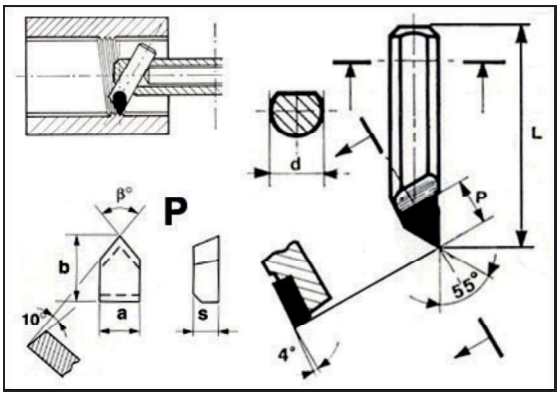
Art. 17315
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]
17315070	**B2/60°-07**	7	30
17315080	**B2/60°-08**	8	40
17315100	**B2/60°-10**	10	50

Utensile C2/55° con placchetta HM M3
C2/55° tool with HM M3 tip

Art. 17325

IMPERO DORMER PRAMET



Descrizione:
Utensile C2/55° per filettatura interna 55° con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

C2/55° tool for internal threading 55° with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

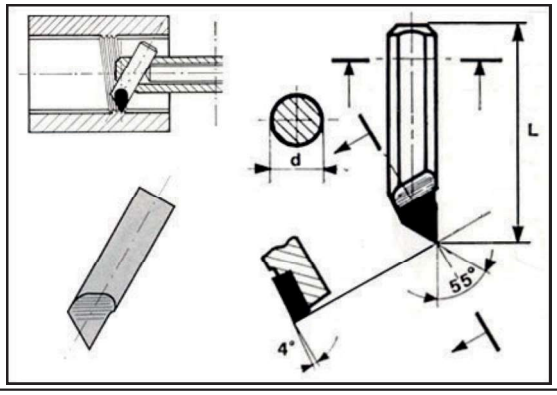
Art. 17325
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17325070	**C2/55°-07**	7	26	E8-IMP	4	8	3	80°
17325080	**C2/55°-08**	8	30	E8-IMP	4	8	3	80°
17325100	**C2/55°-10**	10	45	E10-IMP	5	10	3	80°
17325120	**C2/55°-12**	12	55	E12-IMP	6	12	3	80°

Utensile C2/55° totalmente in HM M3
C2/55° tool totally in HM M3

Art. 17326

IMPERO DORMER PRAMET



Descrizione:
Utensile C2/55° per filettatura interna 55° totalmente in HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

C2/55° tool for internal threading totally in HM. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

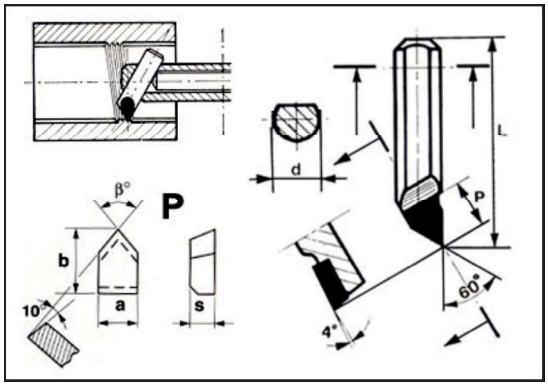
Art. 17326
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]
17326040	**C2/55°T-04**	4	18
17326050	**C2/55°T-05**	5	20

Utensile C2/60° con placchetta HM M3
C2/60° tool with HM M3 tip

Art. 17330

IMPERO DORMER PRAMET



Descrizione:
Utensile C2/60° per filettatura interna 60° con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

C2/60° tool for internal threading 60°with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

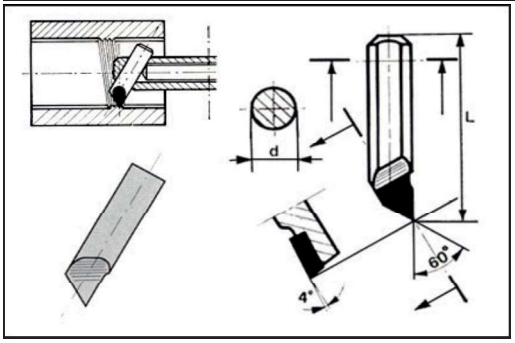
Art. 17330
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17330070	**C2/60°-07**	7	26	E8-IMP	4	8	3	80°
17330080	**C2/60°-08**	8	30	E8-IMP	4	8	3	80°
17330100	**C2/60°-10**	10	45	E10-IMP	5	10	3	80°
17330120	**C2/60°-12**	12	55	E12-IMP	6	12	3	80°

Utensile C2T/60° totalmente in HM M3
C2T/60° tool totally in HM M3

Art. 17331

IMPERO DORMER PRAMET



Descrizione:
Utensile C2T/60° per filettatura interna 60° totalmente in HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

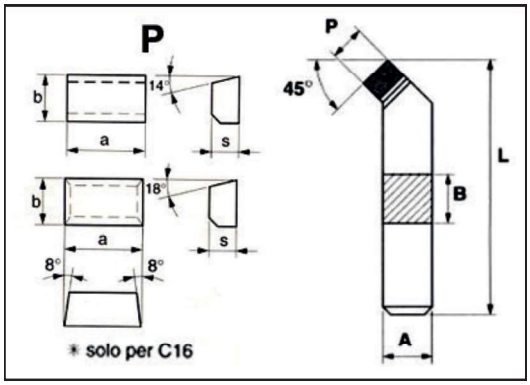
C2T/60° tool for internal threading 60° totally in HM. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17331
Dati tecnici / Technical data

cod. code	tipo kind	d [mm]	L [mm]
17331040	**C2/60°T-04**	4	18
17331050	**C2/60°T-05**	5	20

Utensile ISO2R con placchetta HM M3
ISO2R tool with HM M3 tip

Art. 17380 IMPERO DORMER PRAMET



Descrizione:
Utensile ISO2R per tornitura esterna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

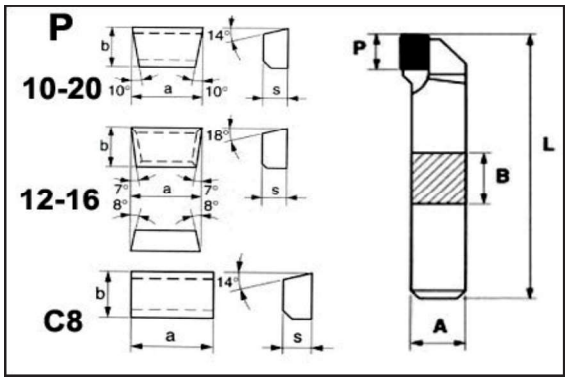
ISO2R tool for external turning with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17380
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	B [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17380160	**ISO2R 1616**	16	16	110	C12	12	8	5
17380200	**ISO2R 2020**	20	20	125	C16	16	10	6

Utensile ISO6R con placchetta HM M3 o SS2
ISO6R tool with HM M3 or SS2 tip

Art. 17385 IMPERO DORMER PRAMET



Art. 17385
Dati tecnici / Technical data

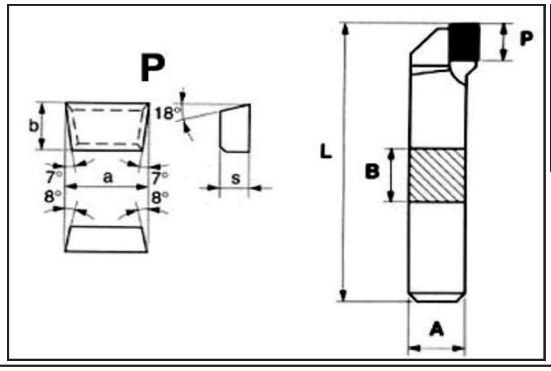
cod. code	tipo kind	A [mm]	B [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17385100	**ISO6R 1010**	10	10	90	C8	8	5	3
17385160	**ISO6R 1616**	16	16	110	ABC 12	12	8	5
17385200	**ISO6R 2020**	20	20	125	ABC 16	16	10	6
17385250	**ISO6R 2525**	25	25	140	ABC 20	21	12	7

Descrizione:
Utensile ISO6R per tornitura esterna con placchetta HM. Qualità non rivestita universale M3 o SS2 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

ISO6R tool for external turning with HM tip. Not coated universal quality M3 or SS2 for steel, cast iron and inox steel at medium cutting speed.

Utensile ISO6L con placchetta HM SS2
ISO6L tool with HM SS2 tip

Art. 17386 IMPERO DORMER PRAMET



Art. 17386
Dati tecnici / Technical data

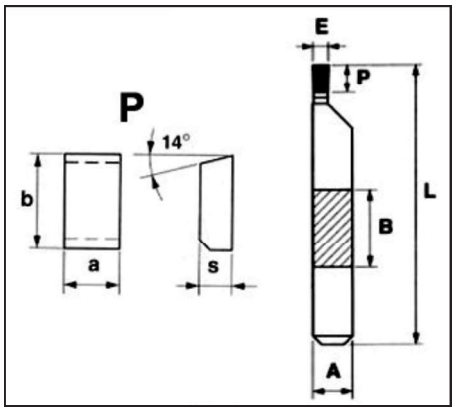
cod. code	tipo kind	A [mm]	B [mm]	L [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17386160	**ISO6R 1616**	16	16	110	ABC 12	12	8	5

Descrizione:
Utensile ISO6L per tornitura esterna con placchetta HM. Qualità non rivestita universale SS2 per sgrossatura e semifinitura di acciaio inox, acciaio fuso e forgiato a medie velocità di taglio.

ISO6L tool for external turning with HM tip. Not coated universal quality SS2 for semi-finishing and roughing of inox steel, cast or forged steel at medium cutting speed.

Utensile ISO7R con placchetta HM SS2
ISO7R tool with HM SS2 tip

Art. 17395 IMPERO DORMER PRAMET



Art. 17395
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	B [mm]	L [mm]	E [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17395122	**ISO7R 1220**	12	20	125	5	D5	5,5	12	5

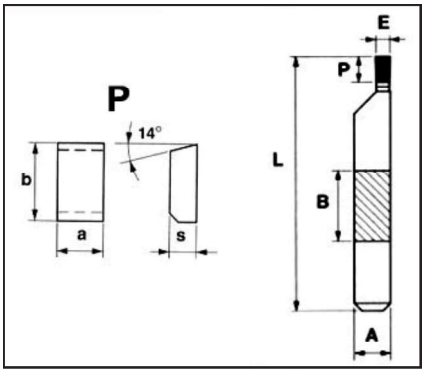
Descrizione:
Utensile ISO7R per scanalatura esterna con placchetta HM. Qualità non rivestita universale SS2 per sgrossatura e semifinitura di acciaio inox, acciaio fuso e forgiato a medie velocità di taglio.

ISO7R tool for external grooving with HM tip. Not coated universal quality SS2 for semi-finishing and roughing of inox steel, cast or forged steel at medium cutting speed.

Utensile ISO7L con placchetta HM SS2
ISO7L tool with HM SS2 tip

Art. 17396

IMPERO DORMER PRAMET



Descrizione:
Utensile ISO7L per scanalatura esterna con placchetta HM. Qualità non rivestita universale SS2 per sgrossatura e semifinitura di acciaio inox, acciaio fuso e forgiato a medie velocità di taglio.

ISO7L tool for external grooving with HM tip. Not coated universal quality SS2 for semi-finishing and roughing of inox steel, cast or forged steel at medium cutting speed.

Art. 17396

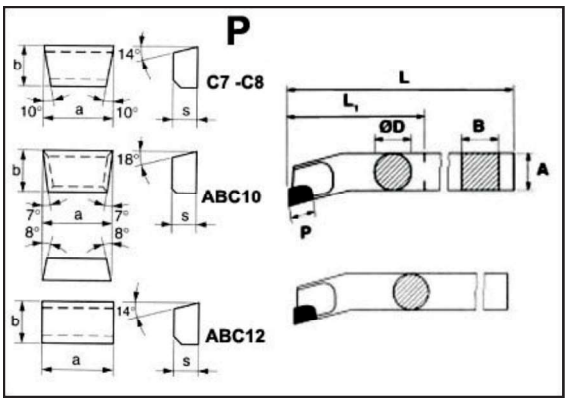
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	B [mm]	L [mm]	E [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17396122	**ISO7R 1220**	12	20	125	5	D5	5,5	12	5

Utensile ISO9R con placchetta HM M3 o SS2
ISO9R tool with HM M3 or SS2 tip

Art. 17405

IMPERO DORMER PRAMET



Descrizione:
Utensile ISO9R per tornitura interna con placchetta HM. Qualità non rivestita universale M3 o SS2 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

ISO9R tool for internal turning with HM tip. Not coated universal quality M3 o SS2 for steel, cast iron and inox steel at medium cutting speed.

Art. 17405

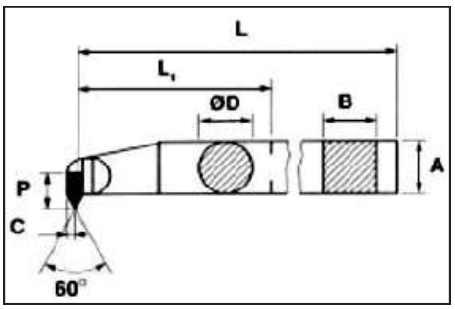
Dati tecnici / Technical data

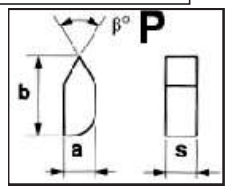
cod. code	tipo kind	A [mm]	B [mm]	D [mm]	L [mm]	L_1 [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]
17405100	**ISO9 1010**	10	10	10	150	50	C7	7	5	2,5
17405120	**ISO9 1212**	12	12	12	180	63	C8	8	5	3
17450160	**ISO9 1616**	16	16	16	210	80	ABC 10	10	6	4

Utensile 353 R 60° con placchetta HM M3
353 R 60° tool with HM M3 tip

Art. 17415

IMPERO DORMER PRAMET





Descrizione:
Utensile 353 R 60° per tornitura interna con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

353 R 60° tool for internal turning with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

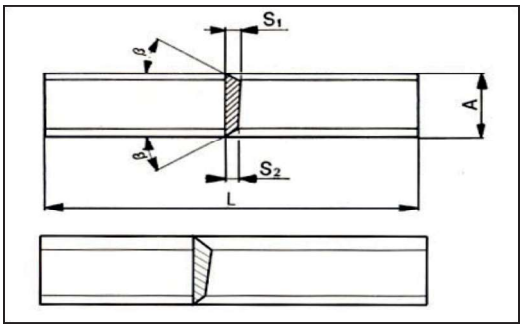
Art. 17415

Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	B [mm]	D [mm]	L [mm]	L_1 [mm]	C [mm]	placchetta P tip P	a [mm]	b [mm]	s [mm]	β
17415160	**353 R 60° 1616**	16	16	16	180	63	2	FIL 4	4	14	4	60°

Lama LMN-200N in HSS-Co T2000S
LMN-200N blade in HSS-Co T2000S

Art. 17500



Descrizione:
Lama LMN-200N per troncatura in HSS-Co. Qualità T2000S con carburi al tungsteno con resistenza all'usura anche ad elevate temperature, per acciaio inox austenitico, acciaio al Ni-Cr, acciaio per utensili.

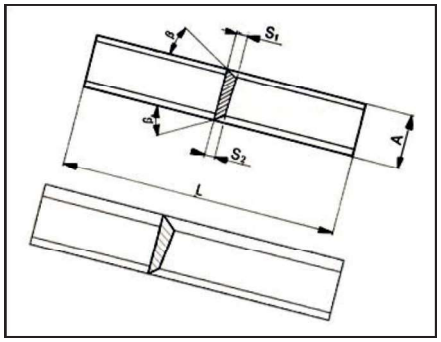
LMN-200N blade in HSS-Co. Carburized tngsten quality T2000S with wear resistance even at high temperature, for austenitic inox steel, Ni-Cr steel

Art. 17500
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	S_1 [mm]	S_2 [mm]	L [mm]	β
17500150	**LMN 1025-200N**	10	2,5	1,5	200	15°
17500200	**LMN 1030-200N**	10	3	2	200	15°
17500250	**LMN 1320-200N**	13	2	1	200	15°
17500300	**LMN 1330-200N**	13	3	2	200	15°
17500350	**LMN 1340-200N**	13	4	3	200	15°
17500400	**LMN 1730-200N**	17	3	2	200	15°
17500450	**LMN 1740-200N**	17	4	3	200	15°
17500500	**LMN 2030-200N**	20	3	2	200	15°
17500550	**LMN 2040-200N**	20	4	3	200	15°
17500600	**LMN 2050-200N**	20	5	4	200	15°

Lama LUN-200N in HSS-Co T2000S
LUN-200N blade in HSS-Co T2000S

Art. 17511



Descrizione:
Lama LUN-200N per troncatura in HSS-Co. Qualità T2000S con carburi al tungsteno con resistenza all'usura anche ad elevate temperature, per acciaio inox austenitico, acciaio al Ni-Cr, acciaio per utensili.

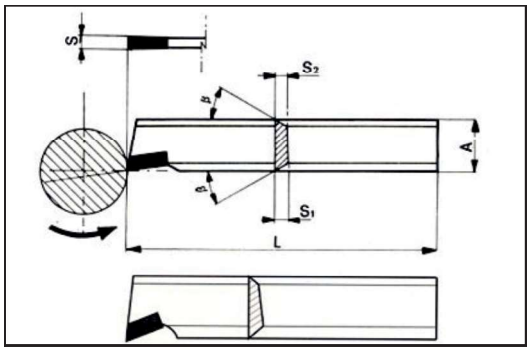
LUN-200N blade in HSS-Co. Carburized tungsten quality T2000S with wear resistance even at high temperature, for austenitic inox steel, Ni-Cr steel and tool steel.

Art. 17511
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	S_1 [mm]	S_2 [mm]	L [mm]	β
17511040	**LUN 3040-200N**	30	4	3	200	30°
17511050	**LUN 3050-200N**	30	5	4	200	30°

Lama LUS-L con placchetta HM M3
LUS-L blade with HM M3 tip

Art. 17544



Descrizione:
Lama LUS-L per troncatura con placchetta HM. Qualità non rivestita universale M3 per acciaio, ghisa, acciaio inox a medie velocità di taglio.

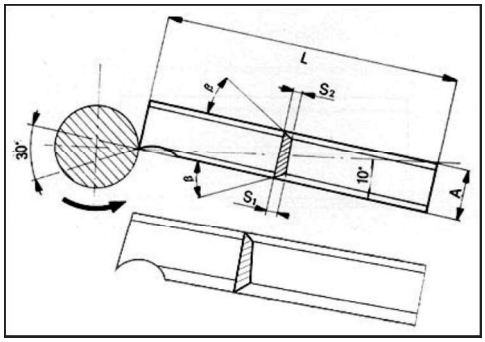
LUS-L blade for cutting-off with HM tip. Not coated universal quality M3 for steel, cast iron and inox steel at medium cutting speed.

Art. 17544
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	S_1 [mm]	S_2 [mm]	L [mm]	S [mm]	β
17544150	**LUS 2355-150L**	23,5	4,5	3,5	150	5,5	30°

Lama LUT-200L in HSS-Co T2000S
LUT-200L blade in HSS-Co T2000S

Art. 17555



Descrizione:
Lama LUT-200L per troncatura in HSS-Co. Qualità T2000S con carburi al tungsteno con resistenza all'usura anche ad elevate temperature, per acciaio inox austenitico, acciaio al Ni-Cr, acciaio per utensili.

LUT-200L blade in HSS-Co. Carburized tungsten quality T2000S with wear resistance even at high temperature, for austenitic inox steel, Ni-Cr steel and tool steel.

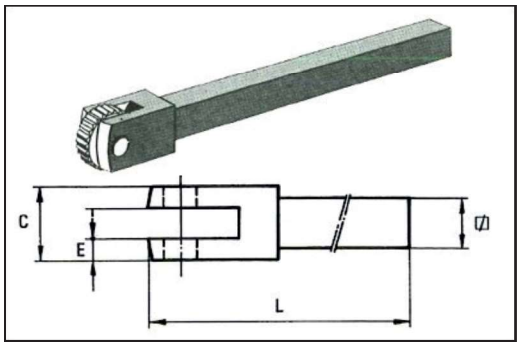
Art. 17555
Dati tecnici / Technical data

cod. code	tipo kind	A [mm]	S_1 [mm]	S_2 [mm]	L [mm]	β
17555200	**LUT 2030-200L**	20	3	2	200	30°
17555250	**LUT 2040-200L**	20	4	3	200	30°
17555300	**LUT 2330-200L**	23,5	3	2	200	30°
17555350	**LUT 2340-200L**	23,5	4	3	200	30°

Inserti per tornitura - Utensili per zigrinatura

Portagodroni per 1 godrone
Knurl holder for 1 forming knurl

Art. 17657 GnuBo



Descrizione:
Portagodroni per rotazione destra e sinistra per torni tradizionali. Per 1 godrone a rullare da mm 20 x 8, foro mm 6, fornito senza godroni.

Knurl holder for right and left rotation for traditional lathes. For 1 forming knurl with dimensions mm 20 x 8, hole's diameter mm 6, supplied without knurls.

ART. 17657590				
Dati tecnici / Technical data				
quadro square [mm]	C [mm]	E [mm]	L [mm]	dim. godrone knurl dim. [mm]
16 x 16	16	3	160	20 x 8 x 6

Portagodroni per 2 godroni
Knurl holder for 2 forming knurls

Art. 17659 GnuBo

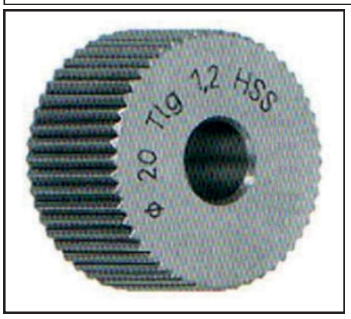
Descrizione:
Portagodroni per 2 godroni a rullare RAA, RGE, a 30°, a 45° da mm 20 x 8. Tipo professionale in acciaio forgiato esecuzione brunita. Lunghezza mm 148, sezione mm 18x25.

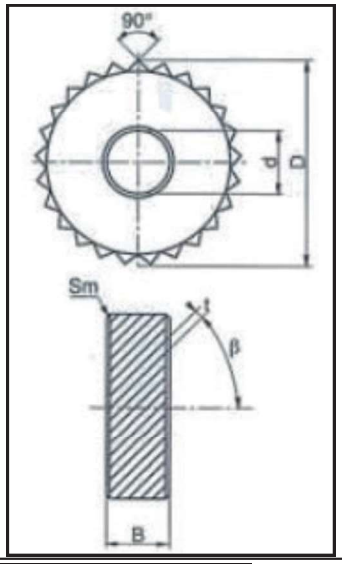
Knurl holder for 2 forming knurls RAA, RGE, at 30°, at 45° with dimensions mm 20 x 8. Professional type in forged steel, burnished execution. Length 148 mm, section 18x25 mm.

SU QUESTO CATALOGO TABELLE TECNICHE DISPONIBILI:
Codifica ISO a pag.146
Legenda pag. 165
Qualità inserti pag. 165
Applicazioni pag. 165

Godrone a rullare tipo AA dritto, HSS
Forming knurl AA straight toothed, HSS

Art. 17682 GnuBo





Descrizione:
Godrone a rullare in HSS fresato, con dentatura dritta tipo AA.

HSS milled forming knurl, with AA straight toothing.

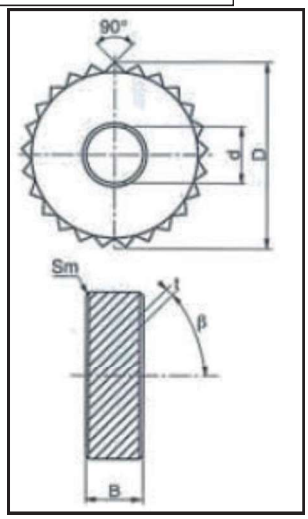
ART. 17682

Dati tecnici / Technical data

cod. code	D [mm]	B [mm]	d [mm]	passo pitch [mm]
17682087	**10**	4	4	0,5
17682109	**10**	4	4	0,8
17682131	**10**	4	4	1,0
17682139	**12**	4	4	1,2
17682153	**15**	5	5	0,8
17682155	**15**	5	5	1,0
17682157	**15**	5	5	1,2
17682175	**20**	8	6	0,5
17682197	**20**	8	6	0,6
17682219	**20**	8	6	0,8
17682241	**20**	8	6	1,0
17682263	**20**	8	6	1,2
17682285	**20**	8	6	1,5
17682307	**20**	8	6	2,0

Godrone a rullare tipo BR o BL elicoidale a 45°, HSS
Forming knurl BR or BL 45° helicoidal toothed, HSS

Art. 17687 GnuBo



Descrizione:
Godrone a rullare in HSS fresato, con dentatura tipo BR (destra) o BL (sinistra) elicoidale a 45°.
Cod. 071: articolo ad esaurimento.

HSSmilled forming knurl, with BR (right) or BL (left) 45° helicoidal toothing.

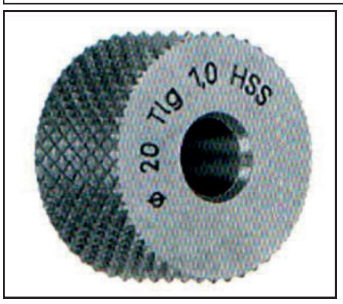
ART. 17687

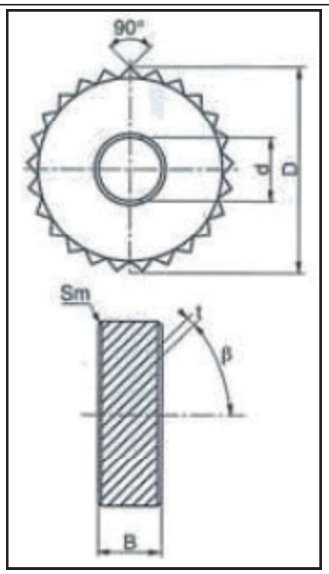
Dati tecnici / Technical data

cod. code	D [mm]	B [mm]	d [mm]	passo pitch [mm]	L / R
17687066	20	8	6	0,8	L
17687071	20	8	6	0,9	L
17687087	20	8	6	1,0	L
17687109	20	8	6	1,5	L
17687120	20	8	6	2,0	L
17687131	20	8	6	0,8	R
17687153	20	8	6	1,0	R
17687175	20	8	6	1,5	R
17687197	20	8	6	2,0	R

Godrone a rullare tipo GE incrociato a 45° a punte sporgenti, HSS
Forming knurl GE 45° crossed, with pointed top lands toothed, HSS

Art. 17692 GnuBo





Descrizione:
Godrone a rullare in HSS fresato, con dentatura GE incrociata a 45° a punte sporgenti.

HSS milled forming knurl, with GE 45° crossed with pointed top lands toothing.

ART. 17692

Dati tecnici / Technical data

cod. code	D [mm]	B [mm]	d [mm]	passo pitch [mm]
17692087	15	5	5	0,8
17692109	15	5	5	1,2
17692131	20	8	6	0,8
17692153	20	8	6	1,0
17692175	20	8	6	1,2
17692197	20	8	6	1,5

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CODIFICA ISO DI PORTAINSERTI PER TORNITURA ESTERNA

1 Sistema di fissaggio

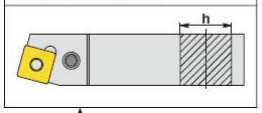
C D M P S X

2 Forma dell'inserto

C (80°) D (55°) E (75°) K (55°) L
R S T V (35°) W (80°)

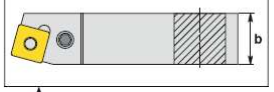
6 Altezza dello stelo

Se ha una sola cifra, mettere uno 0 davanti.
Es h = 8 si indica 08



7 Larghezza dello stelo

Se ha una sola cifra, mettere uno 0 davanti.
Es h = 8 si indica 08



10 Caratteristiche del produttore

Se necessario, è possibile aggiungere un codice supplementare se il produttore desidera fornire maggiori informazioni.

P	S	B	N	R	25	25	M	12	..
1	2	3	4	5	6	7	8	9	10

3 Angolo di attacco

A (90°) B (75°) C (90°) D (45°)
E (60°) F (90°) G (90°)
J (93°) K (75°) L (95°, 95°)
N (63°) R (75°) S (45°)
T (60°) V (72°30') W (60°)

4 Angolo di spoglia inferiore

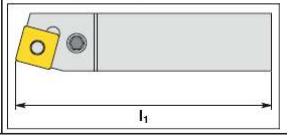
B (5°) C (7°)
D (15°) E (20°)
N (0°) P (11°)

5 Orientamento

R N L

8 Lunghezza del portainserto

32	A	160	N
40	B	170	P
50	C	180	Q
60	D	200	R
70	E	250	S
80	F	300	T
90	G	350	U
100	H	400	V
110	J	450	W
125	K	500	Y
140	L	SPECIAL	X
150	M		



9 Lunghezza del tagliente

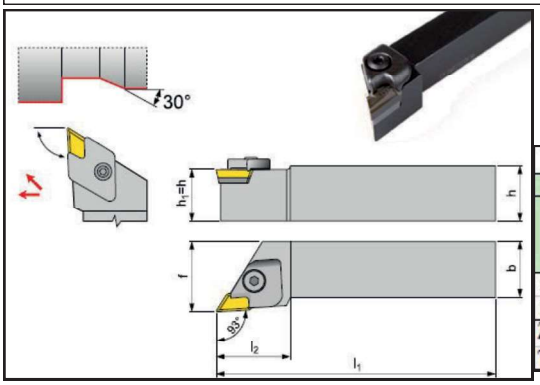
C D E K R (d) S T V W

Se ha una sola cifra, mettere uno 0 davanti.

141

Portainserti CKJNR per tornitura esterna
CKJNR toolholder for external turning

Art. 17720 IMPERO DORMER PRAMET



Descrizione:
Portainserti CKJNR per tornitura esterna.

CKJNR toolholder for external turning.

Art. 17720

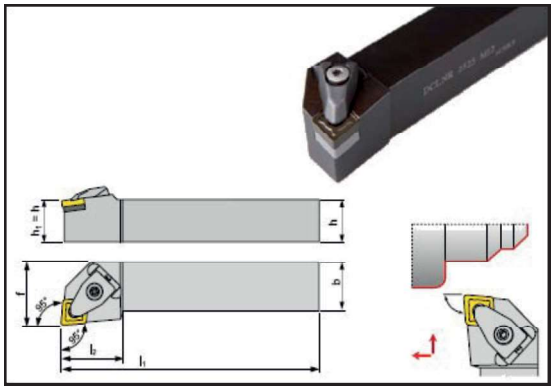
Dati tecnici / Technical data

cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17720200	**CKJNR 2020K 16**	20	20	30	125	34	1°	-5°	0,45	R1	KNUX 1604..
17720250	**CKJNR 2525M 16**	25	25	32	150	34	1°	-5°	0,7	R	KNUX 1604..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti DCLNR per tornitura esterna
DCLNR toolholder for external turning

Art. 17725 IMPERO DORMER PRAMET



Descrizione:

Portainserti DCLNR per tornitura esterna.

DCLNR toolholder for external turning.

Art. 17725

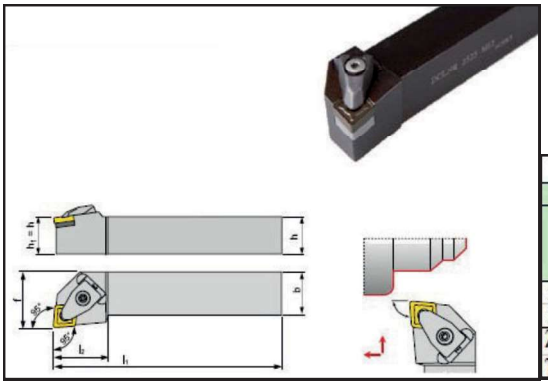
Dati tecnici / Technical data

cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17725200	**DCLNR 2020K 12**	20	20	25	125	30	-6°	-6°	0,4	DC12	CN.. 1204..
17725250	**DCLNR 2525M 12**	25	25	32	150	32	-6°	-6°	0,7	DC12	CN.. 1204..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti DCLNL per tornitura esterna
DTGNR toolholder for external turning

Art. 17726 IMPERO DORMER PRAMET



Descrizione:
Portainserti DCLNL per tornitura esterna.

DCLNL toolholder for external turning.

Art. 17726

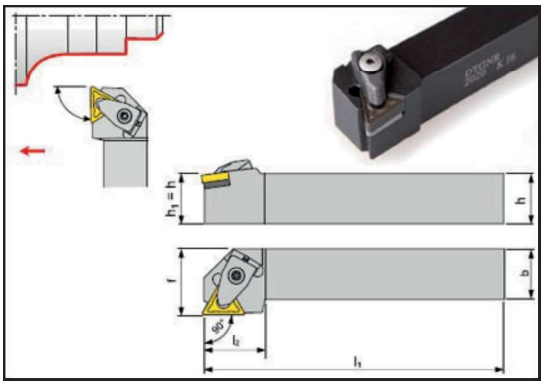
Dati tecnici / Technical data

cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17726200	**DCLNL 2020K 12**	20	20	25	125	30	-6°	-6°	0,4	DC12	CN.. 1204..
17726250	**DCLNL 2525M 12**	25	25	32	150	32	-6°	-6°	0,7	DC12	CN.. 1204..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti DTGNR per tornitura esterna
DTGNR toolholder for external turning

Art. 17728 IMPERO DORMER PRAMET



Descrizione:
Portainserti DTGNR per tornitura esterna.

DTGNR toolholder for external turning.

Art. 17728

Dati tecnici / Technical data

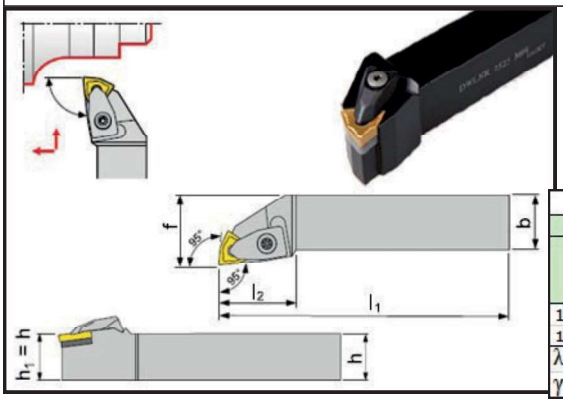
cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17728200	**DTGNR 2020K 16**	20	20	25	125	25	-6°	-6°	0,4	DT16	TN.. 1604..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti DWLNR per tornitura esterna
DWLNR toolholder for external turning

Art. 17734

IMPERO DORMER PRAMET



Descrizione:
Portainserti DWLNR per tornitura esterna.

DWLNR toolholder for external turning

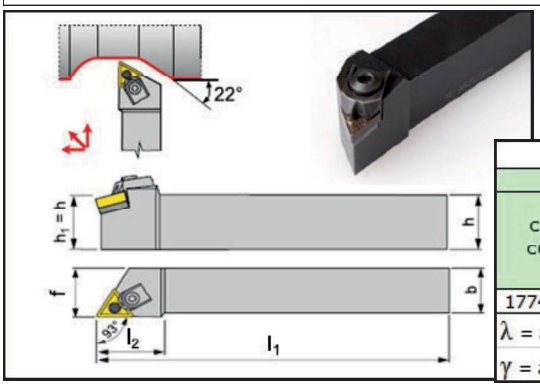
Art. 17734
Dati tecnici / Technical data

cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17734200	**DWLNR 2020K 08**	20	20	25	125	35	-6°	-6°	0,4	DW08	WNM.. 0804..
17734250	**DWLNR 2525M 08**	25	25	32	150	35	-6°	-6°	0,8	DW08	WNM.. 0804..
λ = angolo d'inclinazione del tagliente / cutting edge inclination angle											
γ = angolo di spoglia superiore / top rake angle											

Portainserti MTJNR per tornitura esterna
MTJNR toolholder for external turning

Art. 17742

IMPERO DORMER PRAMET



Descrizione:
Portainserti MTJNR per tornitura esterna.

MTJNR toolholder for external turning.

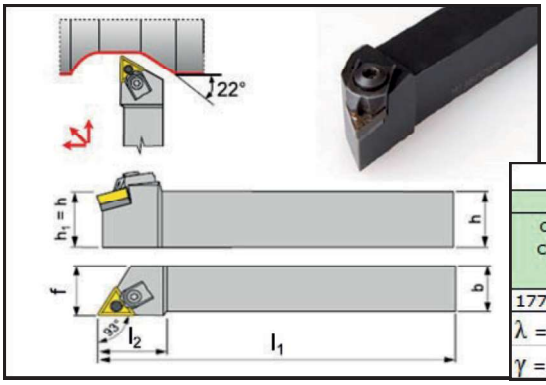
Art. 17742
Dati tecnici / Technical data

cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17742250	**MTJNR 2525M 16**	25	25	32	150	34	-6°	-6°	0,8	MT16	TN.. 1604..
λ = angolo d'inclinazione del tagliente / cutting edge inclination angle											
γ = angolo di spoglia superiore / top rake angle											

Portainserti MTJNL per tornitura esterna
MTJNL toolholder for external turning

Art. 17743

IMPERO DORMER PRAMET



Descrizione:
Portainserti MTJNL per tornitura esterna.

MTJNL toolholder for external turning.

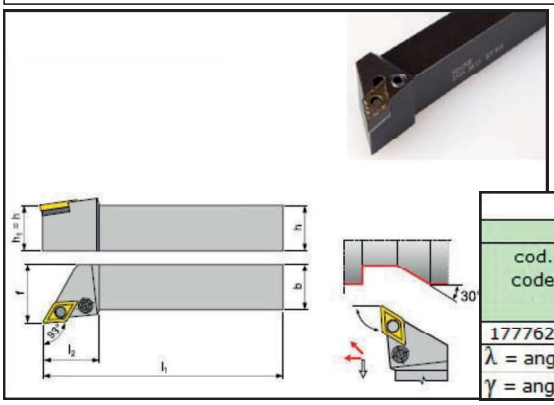
Art. 17743
Dati tecnici / Technical data

cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17743250	**MTJNL 2525M 16**	25	25	32	150	34	-6°	-6°	0,8	MT16	TN.. 1604..
λ = angolo d'inclinazione del tagliente / cutting edge inclination angle											
γ = angolo di spoglia superiore / top rake angle											

Portainserti PDJNR per tornitura esterna
PDJNR toolholder for external turning

Art. 17776

IMPERO DORMER PRAMET



Descrizione:
Portainserti PDJNR per tornitura esterna.

PDJNR toolholder for external turning.

Art. 17776
Dati tecnici / Technical data

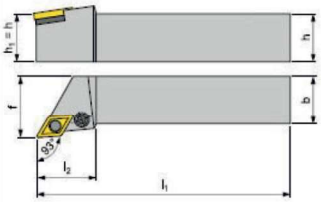
cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17776250	**PDJNR 2525M 15**	25	25	32	150	40	-6°	-6°	0,68	PD30	DN.. 1506..
λ = angolo d'inclinazione del tagliente / cutting edge inclination angle											
γ = angolo di spoglia superiore / top rake angle											

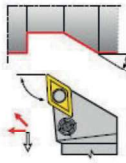
Portainserti PDJNL per tornitura esterna
PDJNL toolholder for external turning

Art. 17777 IMPERO DORMER PRAMET

Descrizione:
Portainserti PDJNL per tornitura esterna.

PDJNL toolholder for external turning.





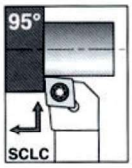
Art. 17777
Dati tecnici / Technical data

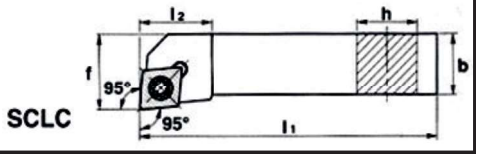
cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17777250	**PDJNL 2525M 15**	25	25	32	150	40	-6°	-6°	0,68	PD30	DN.. 1506..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti SCLCR per tornitura esterna
SCLCR toolholder for external turning

Art. 17795 IMPERO DORMER PRAMET





Descrizione:
Portainserti SCLCR per tornitura esterna. Per inserti CCMT.

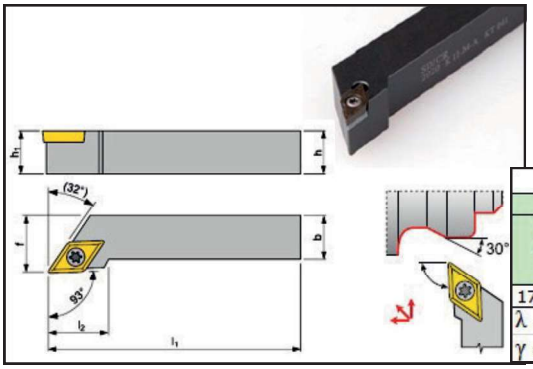
SCLCR toolholder for external turning. For CCMT inserts.

Art. 17795
Dati tecnici / Technical data

cod. code	codice ISO ISO code	h [mm]	b [mm]	l_1 [mm]	l_2 [mm]	f [mm]	λ	γ	lungh. tagliente cutting edge length [mm]
17795080	**SCLCR 0808J 06**	8	8	110	11	10	0°	0°	6
17795200	**SCLCR 2020K 09**	20	20	125	18	25	0°	0°	9
17795220	**SCLCR 2020K 12**	20	20	125	25	25	0°	0°	12

Portainserti SDJCR per tornitura esterna
SDJCR toolholder for external turning

Art. 17801 IMPERO DORMER PRAMET



Descrizione:
Portainserti SDJCR per tornitura esterna.

SDJCR toolholder for external turning.

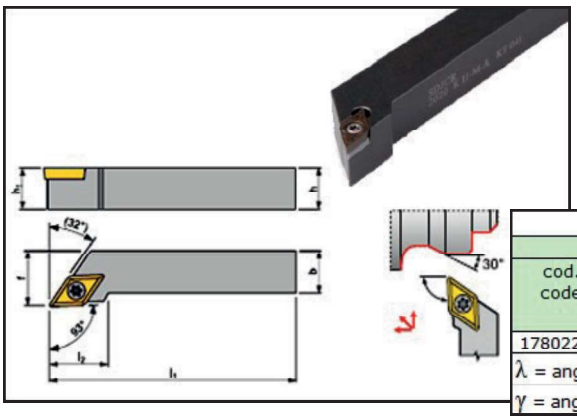
Art. 17801
Dati tecnici / Technical data

cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17801200	**SDJCR 2020K 11-M-A**	20	20	25	125	20	0°	0°	0,4	SD11	DC.. 11T3..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti SDJCL per tornitura esterna
SDJCL toolholder for external turning

Art. 17802 IMPERO DORMER PRAMET



Descrizione:
Portainserti SDJCL per tornitura esterna.

SDJCL toolholder for external turning.

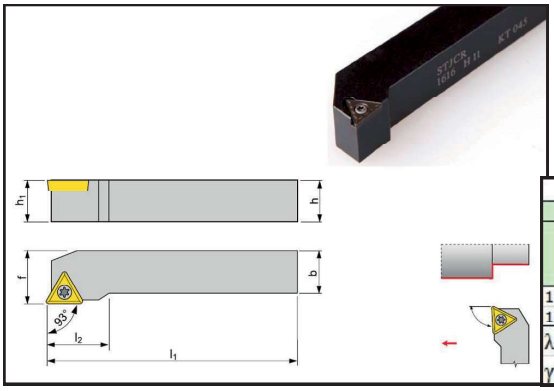
Art. 17802
Dati tecnici / Technical data

cod. code	codice ISO ISO code	$h=h_1$ [mm]	b [mm]	f [mm]	l_1 [mm]	l_2 [mm]	λ	γ	peso weight [kg]	spare parts	inserti inserts
17802202	**SDJCL 2020 K 11-M-A**	20	20	25	125	20	0°	0°	0,4	SD11	DC ... 11T3 ..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti STGCR per tornitura esterna
STGCR toolholder for external turning

Art. 17804 IMPERO DORMER PRAMET



Descrizione:
Portainserti STGCR per tornitura esterna.

STGCR toolholder for external turning.

Art. 17804

Dati tecnici / Technical data

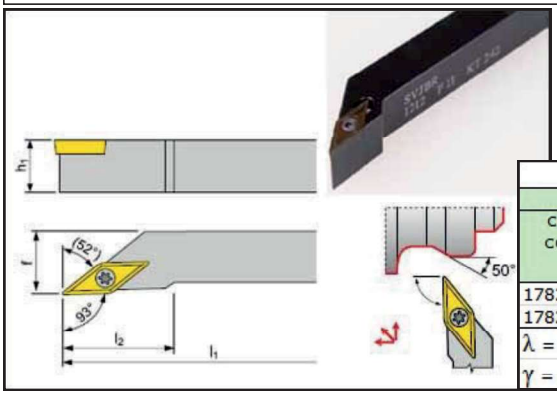
cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17804160	**STGCR 1616H 11**	16	16	20	100	18	0°	0°	0,22	SO1	TC.. 1102..
17804200	**STGCR 2020K 16-M-A**	20	20	25	125	25	0°	0°	0,4	ST10	TC.. 16T3..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle

γ = angolo di spoglia superiore / top rake angle

Portainserti SVJCR per tornitura esterna
SVJCR toolholder for external turning

Art. 17823 IMPERO DORMER PRAMET



Descrizione:
Portainserti SVJCR per tornitura esterna.

SVJCR toolholder for external turning.

Art. 17823

Dati tecnici / Technical data

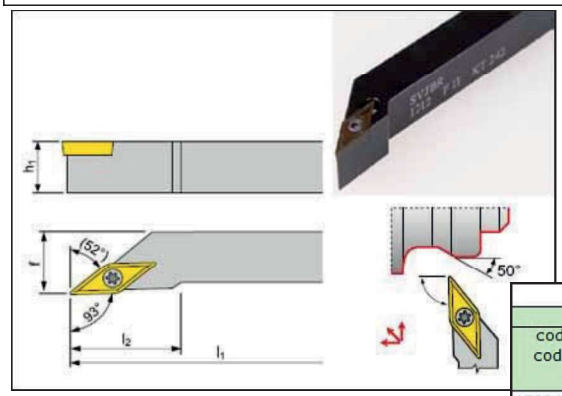
cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17823200	**SVJCR 2020 K 13**	20	20	25	125	30	0°	0°	0,37	SV22	VC.. 1303..
17823250	**SVJCR 2525 M 13**	25	25	32	150	30	0°	0°	0,67	SV22	VC.. 1303..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle

γ = angolo di spoglia superiore / top rake angle

Portainserti SVJCL per tornitura esterna
SVJCL toolholder for external turning

Art. 17824 IMPERO DORMER PRAMET



Descrizione:
Portainserti SVJCL per tornitura esterna.

SVJCL toolholder for external turning.

Art. 17824

Dati tecnici / Technical data

cod. code	codice ISO ISO code	h=h1 [mm]	b [mm]	f [mm]	l1 [mm]	l2 [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17824200	**SVJCL 2020 K 13**	20	20	25	125	30	0°	0°	0,37	SV22	VC.. 1303
17824250	**SVJCL 2525M 16 M A**	25	25	32	150	32	0°	0°	0,68	SV10	VB..1604; VC..1604

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle

γ = angolo di spoglia superiore / top rake angle

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CODIFICA ISO DI PORTAINSERTI PER TORNITURA INTERNA

1	Tipo di portainserto
S	Corpo in acciaio
A	Corpo in acciaio con foro per refrigerante
B	Corpo in acciaio con dispositivo antivibrante
D	Corpo in acciaio con dispositivo antivibrante e foro per refrigerante
C	Corpo in metallo duro con testa fissa in acciaio
E	Corpo in metallo duro con testa fissa in acciaic e foro per refrigerante
F	Corpo in metallo duro con testa fissa in acciaio e dispositivo antivibrante
G	Corpo in metallo duro con testa fissa in aciaio, dispositivo antivibrante e foro per refrigerante
H	Corpo in metallo pesante
J	Corpo in metallo pesante e foro per refrigerante

5	Forma dell'inserto				
	80°	55°	75°	55°	
C	D	E	K	L	
R	S	T	V	W	
			35°	80°	

7	Angolo di spoglia inferiore		
B	5°	C	7°
D	15°	E	20°
N	0°	P	11°

8	Orientamento
R	
L	

10	Caratteristiche del produttore
	Se necessario, è possibile aggiungere un codice supplementare se il produttore desidera fornire maggiori informazioni.

S	25	T	-	P	C
1	2	3		4	5

L	N	R	12	-	..
6	7	8	9		10

2	Diametro dello stelo
	d
	Se ha una sola cifra, mettere uno 0 davanti

3	Lunghezza del portainserto				
80	F	180	Q		
90	G	200	R		
100	H	250	S		
110	J	300	T		
125	K	350	U		
140	L	400	V		
150	M	450	W		
160	N	500	Y		
170	P	SPECIAL	X		

l_1

4	Sistema di fissaggio		
C		D	
M		P	
S			

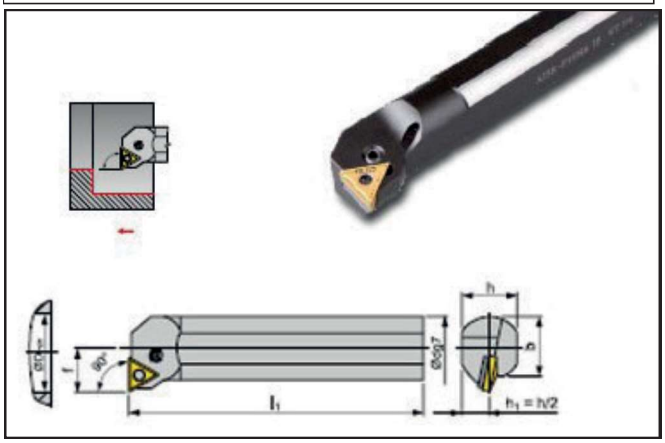
6	Angolo di attacco		
F	90°		
K	75°		
L	95°	95°	
Q	107°30'		
S	45°		
U	93°		
W	60°		
Y	85°		

9	Lunghezza del tagliente		
C	l	D	l
E	l	K	l
R	d	S	l
T	l	V	l
W	l		

Se ha una sola cifra, mettere uno 0 davanti

Portainserti PTFNR per tornitura interna
PTFNR toolholder for internal turning

Art. 17834 IMPERO DORMER PRAMET



Descrizione:
Portainserti PTFNR per tornitura interna.

PTFNR toolholder for internal turning.

Art. 17834

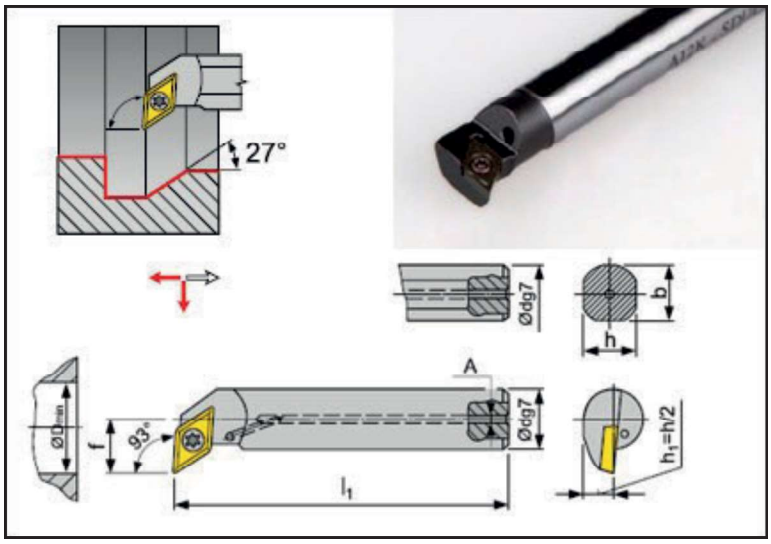
Dati tecnici / Technical data

cod. code	codice ISO ISO code	d [mm]	f [mm]	l_1 [mm]	h [mm]	b [mm]	D min [mm]	λ°	γ °	peso weight [kg]	ricambi spare parts	inserti inserts [mm]
17834250	**A25R-PTFNR 16**	25	17	200	23	23	32	-12	-6	0,65	PT11	TN.. 1604..
17834320	**A32S-PTFNR 16**	32	22	250	30	30	40	-12	-6	1,40	PT10	TN.. 1604..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti SDUCR per tornitura interna
SDUCR toolholder for internal turning

Art. 17843 IMPERO DORMER PRAMET



Descrizione:
Portainserti SDUCR per tornitura interna.

SDUCR toolholder for internal turning.

Art. 17843

Dati tecnici / Technical data

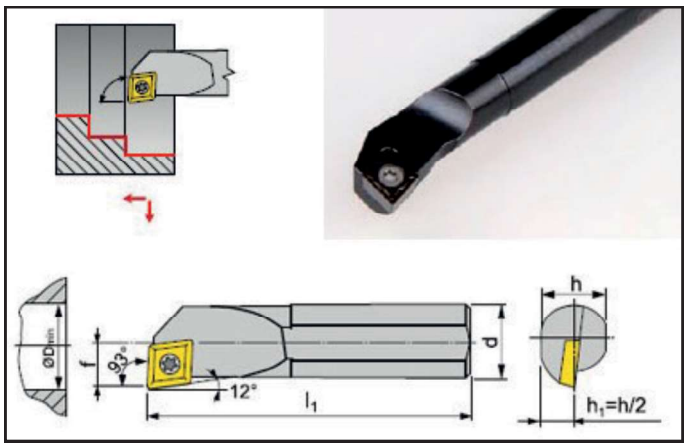
cod. code	codice ISO ISO code	d [mm]	f [mm]	l_1 [mm]	h [mm]	A [mm]	D min [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17843200	**A20Q-SDUCR 11**	20	13	180	18	8	25	-5°	0°	0,4	SO8	DC.. 11T3..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle
γ = angolo di spoglia superiore / top rake angle

Portainserti SEUCR per tornitura interna
SEUCR toolholder for internal turning

Art. 17847

IMPERO DORMER PRAMET



Descrizione:
Portainserti SEUCR per tornitura interna.

SEUCR toolholder for internal turning.

ART. 17847

Dati tecnici / Technical data

cod. code	codice ISO ISO code	d [mm]	f [mm]	l_1 [mm]	h [mm]	D min [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17847080	**S08K-SEUCR 06**	8	7	125	7	11	- 5°	0	0,06	SE23	EC.. 0602..
17847100	**S10M-SEUCR 06**	10	8	150	9	13	- 5°	0	0,1	SE23	EC.. 0602..
17847120	**S12M-SEUCR 08**	12	9	150	11	15	- 5°	0	0,14	SE24	EC.. 0803..
17847160	**S16R-SEUCR 08**	16	11	200	15	20	- 5°	0	0,32	SE24	EC.. 0803..
17847200	**S20S-SEUCR 08**	20	13	250	18	25	- 5°	0	0,58	SE24	EC.. 0803..

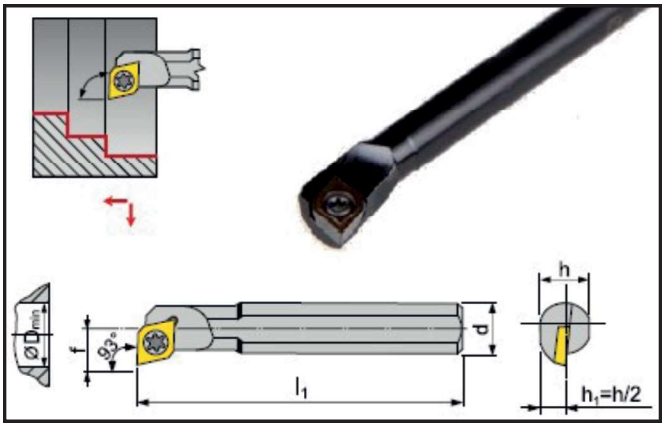
λ = angolo d'inclinazione del tagliente / cutting edge inclination angle

γ = angolo di spoglia superiore / top rake angle

Portainserti SEUPR per tornitura interna
SEUPR toolholder for internal turning

Art. 17857

IMPERO DORMER PRAMET



Descrizione:
Portainserti SEUPR per tornitura interna.

SEUPR toolholder for internal turning.

Art. 17857

Dati tecnici / Technical data

cod. code	codice ISO ISO code	d [mm]	f [mm]	l_1 [mm]	h [mm]	D min [mm]	λ	γ	peso weight [kg]	ricambi spare parts	inserti inserts
17857060	**S06H-SEUPR 05**	6	5	100	5,4	8,3	-7°	0°	0,03	SV21	EP.. 0502..

λ = angolo d'inclinazione del tagliente / cutting edge inclination angle

γ = angolo di spoglia superiore / top rake angle

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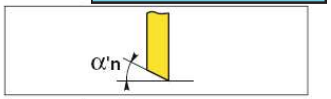
Gnutti Bortolo

CODIFICA ISO DI INSERTI PER TORNITURA

1 Forma

C (80°)	D (55°)	E (75°)	K (55°)
L	R	S	T
V (35°)	W (80°)		

2 Angolo di spoglia inferiore



N	0°
B	5°
C	7°
D	15°
E	20°
P	11°
O	Altro valore

4 Bloccaggio - Geometria di taglio

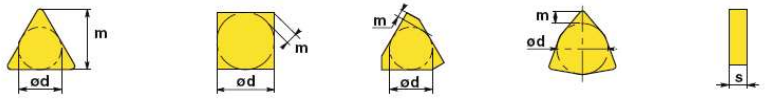
N	R	F	A
M	G	W (40° to 60°)	T (40° to 60°)
Q (40° to 60°)	U (40° to 60°)	X	

Inserti di forma non equilatera oppure con dimensioni o dettagli particolari

1	2	3	4
S	N	M	G
C	P	G	X

3 Classe di tolleranza

	H	E	G	K	M			U	
Forma	Tutto	Tutto	Tutto	Tutto	C, E, R, S, T, W	D	V	Tutto	ød
ød	± 0.013	± 0.025	± 0.025	± 0.05	± 0.05			± 0.08	3.97.. - 10.0
				± 0.08	± 0.08			± 0.13	12.0 - 12.7
				± 0.10	± 0.10			± 0.18	15.875.. - 20.0
				± 0.13	± 0.13			± 0.25	25.0 - 25.4
				± 0.15	± 0.15			± 0.25	31.75 - 32.0
s	± 0.025	± 0.025	± 0.13	± 0.025	± 0.13			± 0.13	3.97 to 32.0
m	± 0.013	± 0.025	± 0.025	± 0.013	± 0.08	± 0.11	± 0.16	± 0.13	3.97 to 9.525
					± 0.13	± 0.15		± 0.20	12.7
					± 0.15	± 0.18		± 0.27	15.875 - 19.05
					± 0.18			± 0.38	25.4



5 Lunghezza tagliente

Inserti equilateri

ød	S	T	C	D	E	V	W
3.97	03	06	-	04	-	07	02
4.76	04	08	04	05	04	08	-
5.56	05	09	05	06	05	09	03
6.35	06	11	06	07	06	11	04
7.94	07	13	08	09	08	13	05
9.525	09	16	09	11	09	16	06
12.7	12	22	12	15	13	22	08
15.875	15	27	16	19	16	27	10
19.05	19	33	19	23	19	33	13
25.4	25	44	25	31	26	44	17

Inserti non equilateri

Inserti tondi

C.l	6.35	8.0	9.525	10.0	12.0	12.7	15.875	16.0	19.05	20.0	25.0	25.4	32.0
R	06	08	09	10	12		15	16	19	20	25		32

Esempio: Codifica dell'inserto Ø 9.525 ⇨ R...09..00

9 Orientamento

OPZIONALE

R

N

L

5	6	7	8	9		10
12	04	08			-	M5
09	T3	04	F	R	-	JQ

6 Spessore

1.59	01
1.98	T1
2.38	02
3.18	03
3.97	T3
4.76	04
5.56	05
6.35	06
7.94	07
9.525	09
12.7	12

7 Raggio

Esempio	
0.8	08
Tagliente vivo	00

Inserti tondi

Diametro metrico

M0

Diametro convertito da un valore in pollici

00

8 Tipo di tagliente

OPZIONALE

F

E

T

S

10 Geometria

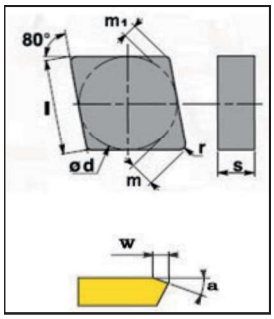
OPZIONALE

Identificazione della geometria di taglio specifica per il fabbricante

Inserti per tornitura –Inserti ceramici per tornitura - Inserti per tornitura

Inserto ceramico CNGN T01020 negativo senza foro, TC100
CNGN T01020 negative-rake insert without hole, TC100

Art. 17940 IMPERO DORMER PRAMET



Descrizione:
Inserto CNGN T01020 negativo senza foro. Geometria di semifinitura. Qualità TC100 con ceramiche miste (allumina e TiC) per tornitura generica su acciaio e finitura su ghisa, classe ISO K05.

CNGN T01020 negative-rake insert without hole. Semi-finishing geometry. Quality TC100 with mixed ceramics (alumina and TiC) for generic steel turning and cast iron finishing, class ISO K05.

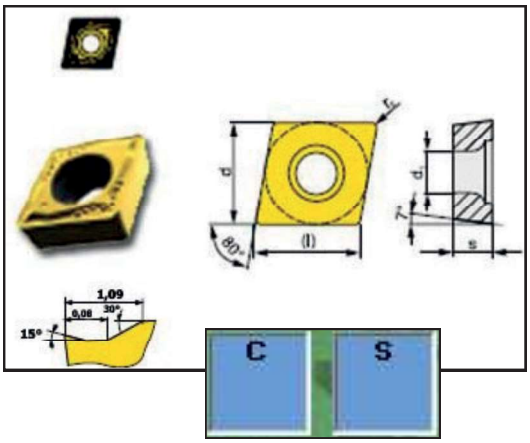
Art. 17940
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	s [mm]	m [mm]	m_1 [mm]	a	w [mm]	r [mm]
17940120	**CNGN 120712 T01020**	12,9	12,70	7,94	3,308	1,818	20°	0,10	1,2

Inserti per tornitura - Inserti per tornitura

Inserto CCMT-FM T9325
Insert CCMT-FM T9325

Art. 18030 IMPERO DORMER PRAMET



Descrizione:
Inserto CCMT-FM positivo con foro. Geometria di finitura e semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e possibile S. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

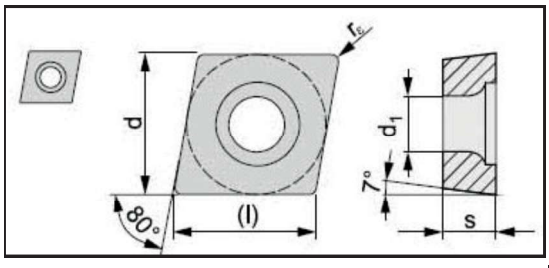
Insert CCMT-FM positive-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P and M, secondary application K and supplementary application S. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

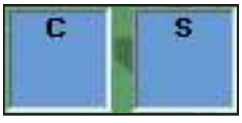
Art. 18030
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18030140	**CCMT 060204E-FM**	6,4	6,35	2,9	2,38	0,4	0,08 - 0,20	0,4 - 1,5
18030340	**CCMT 09T304E-FM**	9,7	9,525	4,5	3,97	0,4	0,10 - 0,30	0,4 - 3,0
18030380	**CCMT 09T308E-FM**	9,7	9,525	4,5	3,97	0,8	0,15 - 0,35	0,8 - 3,0
18030580	**CCMT 120408E-FM**	12,9	12,7	5,5	4,76	0,8	0,15 - 0,35	0,8 - 4,0

Inserto CCMW T5305
Insert CCMW T5305

Art. 18050 IMPERO DORMER PRAMET





Descrizione:
Inserto CCMW con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppo P, K e H con elevate velocità di taglio.

Insert CCMW with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

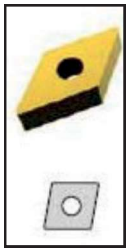
Art. 18050
Dati tecnici / Technical data

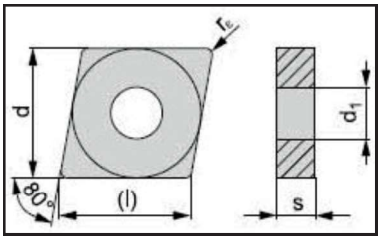
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18050140	**CCMW 060204**	6,4	6,35	2,8	2,38	0,4	0,05 - 0,30	0,4 - 4,2
18050340	**CCMW 09T304**	9,7	9,525	4,4	3,97	0,4	0,05 - 0,30	0,4 - 6,3

Inserti per tornitura - Inserti per tornitura

Inserto CNMA T5305
Insert CNMA T5305

Art. 18080 IMPERO PRAMET DORMER PRAMET





Descrizione:
Inserto CNMA con foro. Geometria negativa con angolo di spoglia superiore neutro per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppo P, K e H con elevate velocità di taglio.

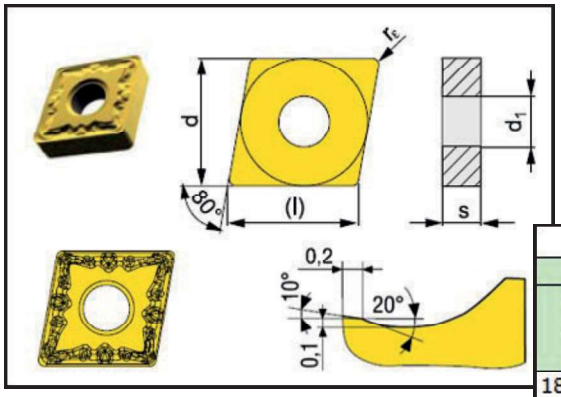
Insert CNMA with hole. Negative geometry with neutral rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

Art. 18080
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18080540	**CNMA 120404**	12,9	12,7	5,16	4,76	0,4	0,10 - 0,30	0,4 - 8,4
18080580	**CNMA 120408**	12,9	12,7	5,16	4,76	0,8	0,10 - 0,60	0,8 - 8,4

Inserto CNMG-FM T9325
Insert CNMG-FM T9325

Art. 18090 IMPERO PRAMET DORMER PRAMET



Descrizione:
Inserto CNMG -FM negativo con foro. Geometria di finitura e semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e possibile S. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

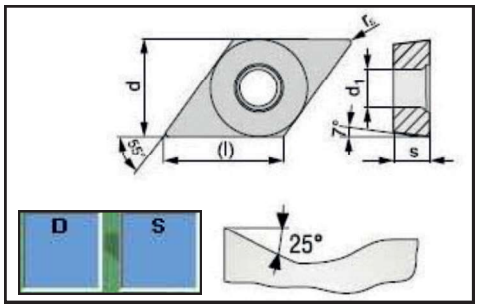
Insert CNMG -FM negative-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P and M, secondary application K and supplementary application S. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

Art. 18090
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18090540	**CNMG 120404E-FM**	12,9	12,7	5,16	4,76	0,4	0,10 - 0,30	0,5 - 3,0
18090580	**CNMG 120408E-FM**	12,9	12,7	5,16	4,76	0,8	0,15 - 0,45	0,8 - 3,0

Inserto DCGT-AL HF7
Insert DCGT-AL HF7

Art. 18184 IMPERO PRAMET DORMER PRAMET



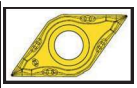
Descrizione:
Inserto DCGT-AL con foro. Geometria superpositiva a tagliente affilato per tornitura universale con taglio continuo di alluminio e sue leghe. Qualità non rivestita HF7 , applicazione principale classe ISO K15, N20, secondaria M15, S15, H15.

Insert DCGT-AL with hole. High positive geometry with sharp cutting edge for universal turning with continuous cut of aluminium and aluminium alloys. Not coated quality HF7, main application class ISO K15, N20, secondary class M15, S15, H15.

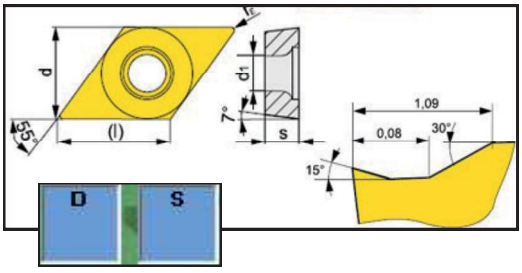
Art. 18184
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18184440	**DCGT 11T304F-AL**	11,6	9,525	4,4	3,97	0,4	0,10 - 0,24	0,4 - 3,3
18184480	**DCGT 11T308F-AL**	11,6	9,525	4,4	3,97	0,8	0,15 - 0,48	0,8 - 3,3

Inserto DCMT-FM T9325
Insert DCMT-FM T9325



Art. 18201 IMPERO PRAMET



Descrizione:
Inserto DCMT -FM positivo con foro. Geometria di finitura e semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e possibile S. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

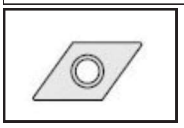
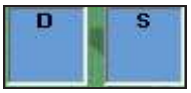
Insert DCMT -FM positive-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P and M, secondary application K and supplementary application S. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

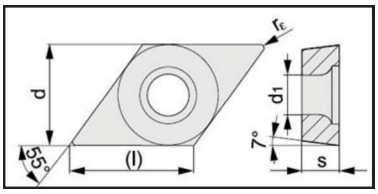
Art. 18201
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18201540	**DCMT 11T304E-FM**	11,6	9,525	4,4	3,97	0,4	0,10 - 0,24	0,4 - 3,0
18201580	**DCMT 11T308E-FM**	11,6	9,525	4,4	3,97	0,8	0,15 - 0,30	0,5 - 3,0

Inserto DCMW T5305
Insert DCMW T5305

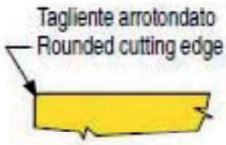
Art. 18210 IMPERO DORMER PRAMET



Descrizione:
Inserto DCMW con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppo P, K e H con elevate velocità di taglio.

Insert DCMW with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

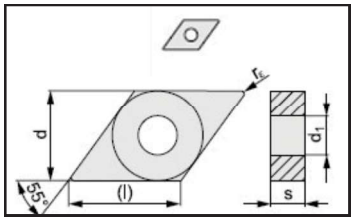


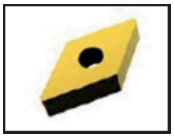
Art. 18210
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18210440	**DCMW 11T304**	11,6	9,525	4,4	3,97	0,4	0,05 - 0,24	0,4 - 2,9

Inserto DNMA T5305
Insert DNMA T5305

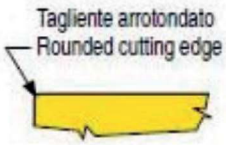
Art. 18240 IMPERO DORMER PRAMET





Descrizione:
Inserto DNMA con foro. Geometria negativa con angolo di spoglia superiore neutro per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppo P, K e H con elevate velocità di taglio.

Insert DNMA with hole. Negative geometry with neutral rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

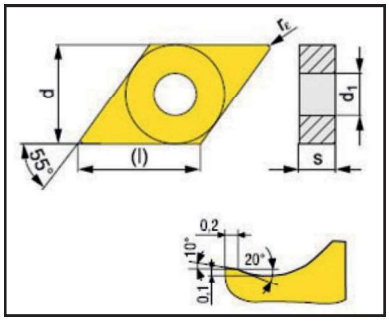


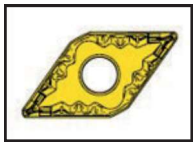
Art. 18240
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18240580	**DNMA 150608**	15,5	12,7	5,16	6,35	0,8	0,10 - 0,48	0,8 - 3,9

Inserto DNMG-FM T9325
Insert DNMG-FM T9325

Art. 18250 IMPERO DORMER PRAMET





Descrizione:
Inserto DNMG -FM negativo con foro. Geometria di finitura e semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e possibile S. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

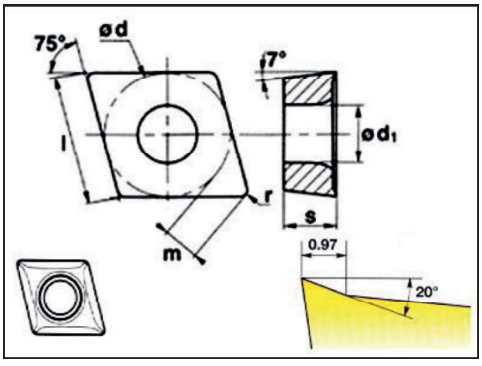
Insert DNMG -FM negative-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P and M, secondary application K and supplementary application S. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

Art. 18250
Dati tecnici / Technical data

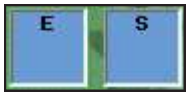
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18250580	**DNMG 150608E-FM**	15,5	12,7	6,35	5,16	0,8	0,15 - 0,45	0,8 - 3,0

Inserto ECGT-1L KX2
Insert ECGT-1L KX2

Art. 18270 IMPERO DORMER PRAMET



Descrizione:
Inserto ECGT-1L positivo con foro. Inserto rettificato sulla periferia. Geomertria di finitura per molti materiali come titanio, acciaio inox e alluminio. Qualità non rivestita KX2, classe ISO N10, S10.



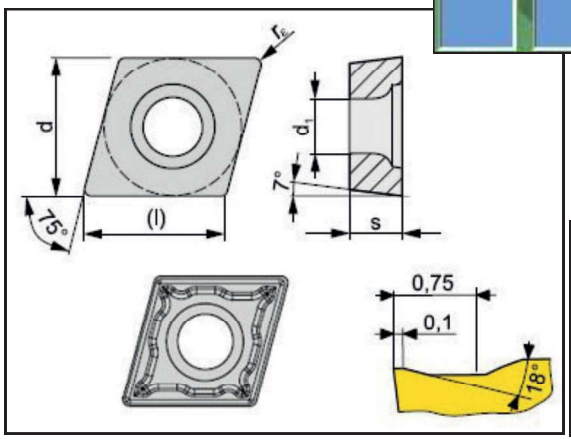
ECGT-1L positive-rake insert with hole. Side ground insert. Finishing geometry for many materials such as titanium, inox steel and aluminum. Not coated quality KX2, class ISO N10, S10.

Art. 18270
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	s [mm]	d_1 [mm]	m [mm]	m_1 [mm]	r [mm]	a_p [mm]	f [mm/giro]
18270340	**ECGT 080304-1L**	8,3	8	3,43	3,4	2,316	0,939	0,4	0,4 - 2,5	0,05 - 0,20

Inserto ECMT-FM2 T9325
Insert ECMT-FM2 T9325

Art. 18272 IMPERO DORMER PRAMET



Descrizione:
Inserto ECMT-FM2 positivo con foro. Geometria di semifinitura e tornitura media per taglio continuo e leggermente interrotto su gruppi di materiali P e K, applicazione secondaria M e possibile S e H. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

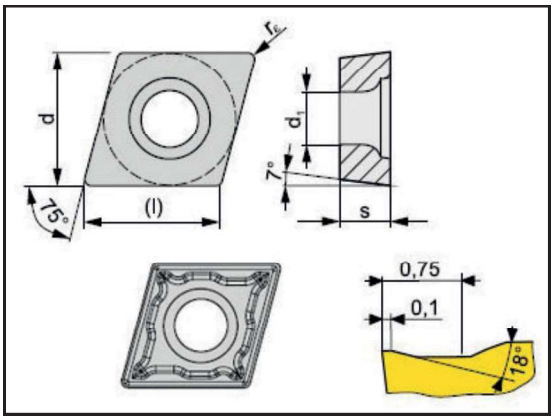
Insert ECMT-FM2 positive-rake with hole. Semi-finishing and medium turning geometry for continuous and sligthly interrupted cut on machining material groups P and K, secondary application M and supplementary application S and H. Coating CVD T9325, main application

Art. 18272
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18272240	**ECMT 060204E-FM2**	6,5	6,35	2,8	2,38	0,4	0,15 - 0,25	0,4 - 2,7
18272340	**ECMT 080304E-FM2**	8,2	7,94	3,4	3,18	0,4	0,10 - 0,25	0,4 - 2,7
18272380	**ECMT 080308E-FM2**	8,2	7,94	3,4	3,18	0,8	0,15 - 0,40	0,8 - 4,0

Inserto ECMT-FM2 T5315
Insert ECMT-FM2 T5315

Art. 18274 IMPERO DORMER PRAMET



Descrizione:
Inserto ECMT-FM2 positivo con foro. Geometria di semifinitura e tornitura media per taglio continuo e leggermente interrotto su gruppi di materiali P e K, applicazione secondaria M e possibile S e H. Rivestimento CVD T5315, applicazione principale classe ISO K15, secondaria P15 e H20, possibile M10, materiale versatile per la lavorazione di materiali del gruppo P, K e H con velocità di taglio da medie ad elevate, per taglio continuo e interrotto.

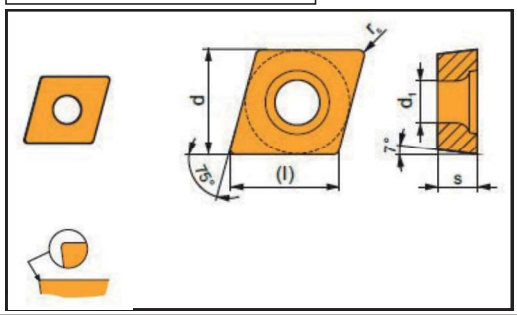
Insert ECMT-FM2 positive-rake with hole. Semi-finishing and medium turning geometry for continuous and sligthly interrupted cut on machining material groups P and K, secondary application M and supplementary application S and H. Coating CVD T5315, main application class ISO K15, secondary class P15 and H20, versatile material, for machining materials in group P, K and H with medium to high cutting speeds for continuous and interrupted cut.

Art. 18274
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18274340	**ECMT 080304E-FM2**	8,2	7,94	3,4	3,18	0,4	0,10 - 0,25	0,4 - 2,7

Inserto ECMW H07
Insert ECMW H07

Art. 18278 IMPERO DORMER PRAMET



Descrizione:
Inserto ECMW positivo con foro. Qualità non rivestita H07, classe ISO K15.

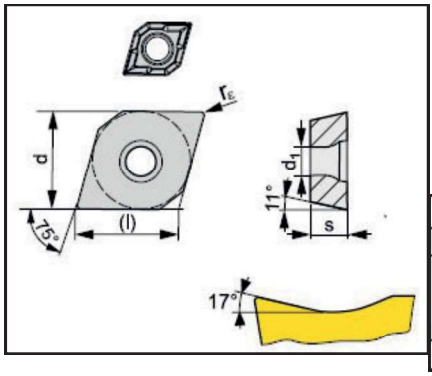
ECMW positive-rake insert with hole. Not coated quality H07, class ISO K15.

Art. 18278
Dati tecnici / Technical data

cod. code	codice ISO ISO code	l [mm]	d [mm]	s [mm]	d_1 [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18278240	**ECMW 060204**	6,5	6,35	2,38	2,8	0,4	0,05 - 0,30	0,4 - 4,2
18278340	**ECMW 080304**	8,2	7,94	3,18	3,4	0,4	0,05 - 0,30	0,4 - 5,6

Inserto EPMT-NF2 T9325
Insert EPMT-NF2 T9325

Art. 18290 IMPERO DORMER PRAMET



Descrizione:
Inserto EPMT-NF2 positivo con foro. Geometria di finitura, semisgrossatura e foratura per taglio continuo e leggermente interrotto su gruppi di materiali P, M e K. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

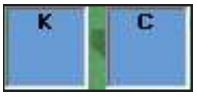
Insert EPMT-NF2 positive-rake with hole. Finishing, semi-roughing and drilling geometry for continuous and sligthly interrupted cut on machining material groups P, M and K. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

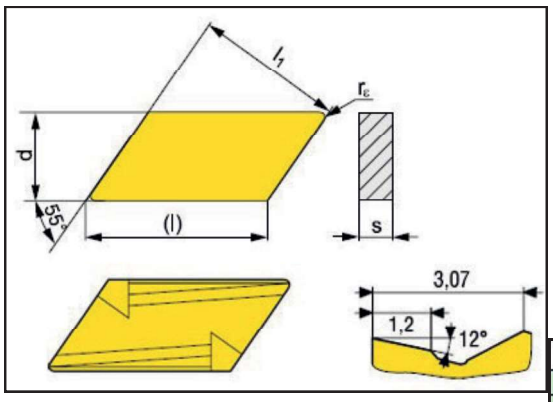
Art. 18290
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18290120	**EPMT 050202E-NF2**	5,7	5,56	2,5	2,38	0,2	0,05 - 0,15	1,0 - 2,5

Inserto KNUX ER-72 T5315
Insert KNUX ER-72 T5315

Art. 18318 IMPERO DORMER PRAMET





Descrizione:
Inserto KNUX ER-72 negativo senza foro. Geometria di taglio universale caratterizzata da basso assorbimento per tornitura leggera e di finitura con taglio continuo su gruppi di materiali P ed M, applicazione secondaria K e S, possibile N. Rivestimento CVD T5315, applicazione principale classe ISO K15, secondaria P15 e H20, possibile M10, materiale versatile per la lavorazione di materiali del gruppo P, K e H con velocità di taglio da medie ad elevate, per taglio continuo e interrotto.

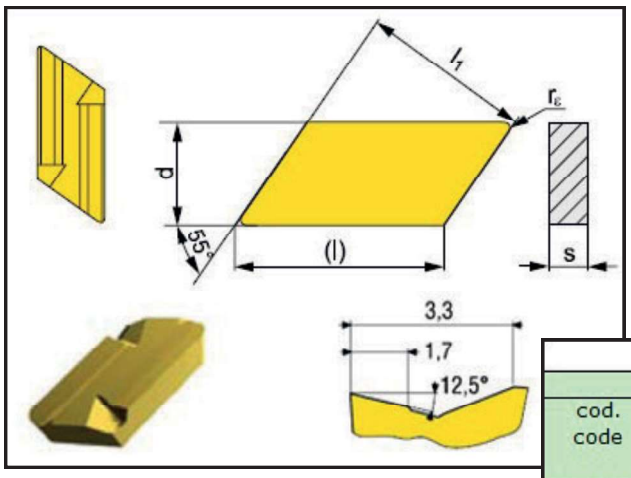
Insert KNUX ER-72 negative-rake without hole. Universal turning geometry characterized by a low cutting force for fine turning ang finishing for continuous cut on machining material groups P and M, secondary application K ans S, and supplementary application N. Coating CVD T5315, main application class ISO K15, secondary class P15 and H20, versatile material, for machining materials in group P, K and H with medium to high cutting speeds for continuous and interrupted cut.

Art. 18318
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	l_1 [mm]	d [mm]	s [mm]	$r_ε$ [mm]	f [mm/giro]	a_p [mm]
18318050	**KNUX 160405ER-72**	19,5	16,15	9,525	4,76	0,5	0,15 - 0,23	0,5 - 4,0

Inserto KNUX SR-73 6640
Insert KNUX SR-73 6640

Art. 18322 IMPERO DORMER PRAMET



Descrizione:
Inserto KNUX SR-73 negativo senza foro. Geometria di taglio universale caratterizzata da basso assorbimento e buona stabilità per tornitura di finitura e media sgrossatura con taglio continuo su gruppi di materiali P ed M, applicazione secondaria K e S, possibile N. Rivestimento CVD 6640, applicazione principale classe ISO P30, M25, secondaria K35.

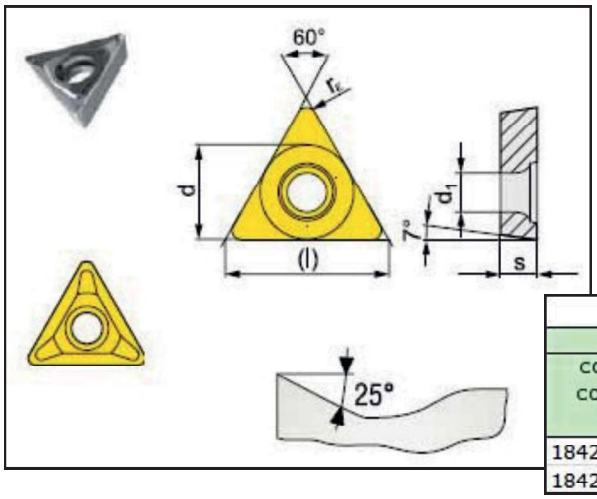
Insert KNUX SR-73 negative-rake without hole. Universal turning geometry characterized by a low cutting force and good stability for finishing and semi-roughing for continuous cut on machining material groups P and M, secondary application K and S, and supplementary application N. Coating CVD 6640, main application class ISO P30, M25, secondary K35.

Art. 18322
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	l_1 [mm]	d [mm]	s [mm]	$r_ε$ [mm]	f [mm/giro]	a_p [mm]
18322050	**KNUX 160405SR-73**	19,5	16,15	9,525	4,76	0,5	0,20 - 0,30	0,5 - 4,8

Inserto TCGT-AL HF7
Insert TCGT-AL HF7

Art. 18425 IMPERO DORMER PRAMET



Descrizione:
Inserto TCGT-AL con foro. Geometria superpositiva a tagliente affilato per tornitura universale con taglio continuo di alluminio e sue leghe. Qualità non rivestita HF7 , applicazione principale classe ISO K15, N20, secondaria M15, S15, H15.

Insert TCGT-AL with hole. High positive geometry with sharp cutting edge for universal turning with continuous cut of aluminium and aluminium alloys. Not coated quality HF7, main application class ISO K15, N20, secondary class M15, S15, H15.

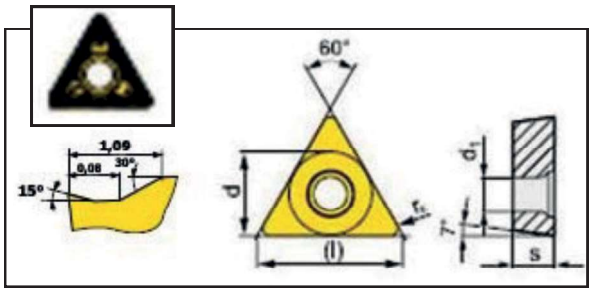
Art. 18425
Dati tecnici / Technical data

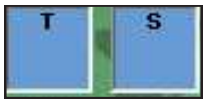
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	$r_ε$ [mm]	f [mm/giro]	a_p [mm]
18425540	**TCGT 16T304F-AL**	16,5	9,525	4,4	3,97	0,4	0,10 - 0,24	0,4 - 5,3
18425580	**TCGT 16T308F-AL**	16,5	9,525	4,4	3,97	0,8	0,15 - 0,48	0,8 - 5,3

Inserti per tornitura - Inserti per tornitura

Inserto TCMT-FM T9325
Insert TCMT-FM T9325

Art. 18460 IMPERO PRAMET DORMER PRAMET





Descrizione:
Inserto TCMT-FM positivo con foro. Geometria di finitura e semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e possibile S. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

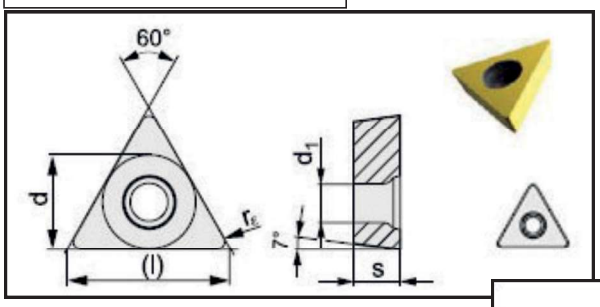
Insert TCMT-FM positive-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P and M, secondary application K and supplementary application S. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

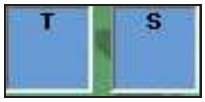
Art. 18460
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18460340	**TCMT 110204E-FM**	11	6,35	2,9	2,38	0,4	0,08 - 0,24	0,4 - 2,0
18460540	**TCMT 16T304E-FM**	16,5	9,525	4,5	3,97	0,4	0,10 - 0,24	0,4 - 3,0
18460580	**TCMT 16T308E-FM**	16,5	9,525	4,5	3,97	0,8	0,15 - 0,35	0,8 - 3,0

Inserto TCMW T5305
Insert TCMW T5305

Art. 18468 IMPERO PRAMET DORMER PRAMET





Descrizione:
Inserto TCMW con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppoP, K e H con elevate velocità di taglio.

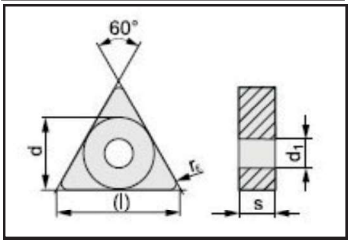
Insert TCMW with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

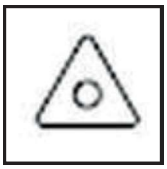
Art. 18468
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18468340	**TCMW 110204**	11	6,35	2,8	2,38	0,4	0,10 - 0,20	0,4 - 3,6
18468540	**TCMW 16T304**	16,5	9,525	4,4	3,97	0,4	0,05 - 0,24	0,4 - 4,8
18468580	**TCMW 16T308**	16,5	9,525	4,4	3,97	0,8	0,05 - 0,35	0,8 - 4,8

Inserto TNMA T5305
Insert TNMA T5305

Art. 18480 IMPERO PRAMET DORMER PRAMET





Descrizione:
Inserto TNMA con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppoP, K e H con elevate velocità di taglio.

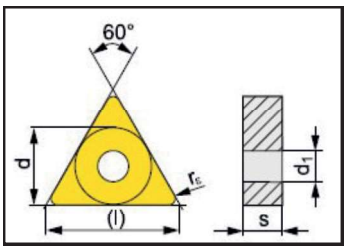
Insert TNMA with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

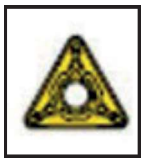
Art. 18480
Dati tecnici / Technical data

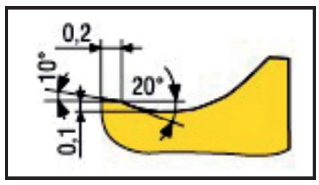
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18480440	**TNMA 160404**	16,5	9,525	3,81	4,76	0,4	0,10 - 0,24	0,4 - 4,8
18480480	**TNMA 160408**	16,5	9,525	3,81	4,76	0,8	0,10 - 0,40	0,8 - 4,8

Inserto TNMG-FM T9325
Insert TNMG-FM T9325

Art. 18488 IMPERO DORMER PRAMET







Descrizione:
Inserto TNMG -M negativo con foro. Geometria di finitura e media sgrossatura con taglio continuo, con applicazione principale nei materiali del gruppo P e K, secondaria gruppo M e condizionale gruppo H. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

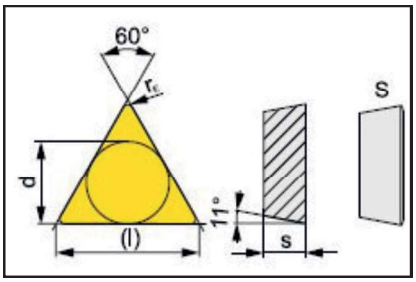
Insert TNMG -M negative-rake with hole. Finishing and semi-roughing geometry with continuous cut, with main application on materials in groups P and K, secondary in group M and supplementary in group H. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

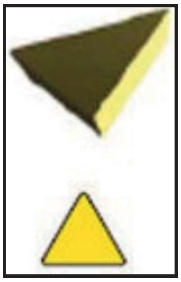
Art. 18488
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	$r_ε$ [mm]	f [mm/giro]	a_p [mm]
18488540	**TNMG 160404E-FM**	16,5	9,525	3,81	4,76	0,4	0,17 - 0,24	0,8 - 3,0
18488580	**TNMG 160408E-FM**	16,5	9,525	3,81	4,76	0,8	0,15 - 0,45	0,8 - 3,0

Inserto TPUN 6640
Insert TPUN 6640

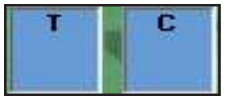
Art. 18543 IMPERO DORMER PRAMET

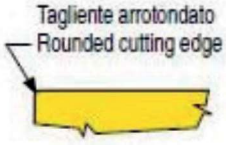




Descrizione:
Inserto TPUN positivo senza foro. Geometria di semi finitura o sgrossatura (secondo le dimensioni dell'inserto) con taglio continuo e leggermente interrotto, con applicazione principale nei materiali del gruppo P e K, secondaria gruppo M. Rivestimento CVD 6640, applicazione principale classe ISO P30, M25, secondaria K35.

Insert TPUN positive-rake with hole. Semi-finishing and roughing geometry (depending on insert dimensions) with continuous or moderately interrupted cut, with main application on materials in groups P and K, secondary in group M. Coating CVD 6640, main application class ISO P30, M25, secondary K35.



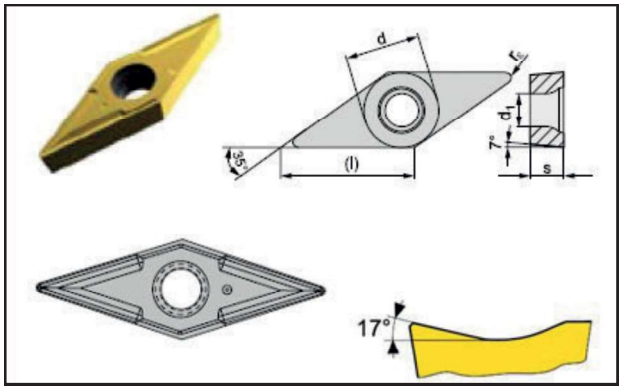


Art. 18543
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	s [mm]	$r_ε$ [mm]	f [mm/giro]	a_p [mm]
18543440	**TPUN 160304**	16,5	9,525	3,18	0,4	0,10 - 0,24	0,4 - 4,8
18543480	**TPUN 160308**	16,5	9,525	3,18	0,8	0,10 - 0,30	0,8 - 4,8
18543680	**TPUN 220408**	22	12,7	4,76	0,8	0,10 - 0,40	0,8 - 6,4

Inserto VCGT-NF2 T9325
Insert VCGT-NF2 T9325

Art. 18608 IMPERO DORMER PRAMET



Descrizione:
Inserto VCGT-NF2 con foro. Geometria positiva da finitura a semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P, M e K. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

Insert VCGT-NF2 positive-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P, M and K. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

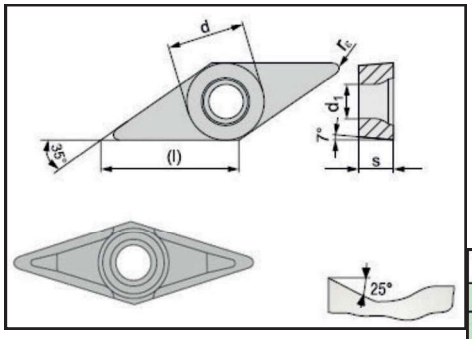
Art. 18608
Dati tecnici / Technical data

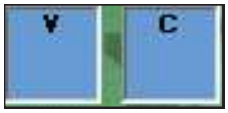
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	$r_ε$ [mm]	f [mm/giro]	a_p [mm]
18608540	**VCGT 130304E-NF2**	13,8	7,94	3,4	3,18	0,4	0,10 - 0,15	1,0 - 3,3
18608580	**VCGT 130308E-NF2**	13,8	7,94	3,4	3,18	0,4	0,15 - 0,37	1,0 - 3,3

Inserto VCGT-AL HF7
Insert VCGT-AL HF7

Art. 18613

IMPERO DORMER PRAMET





Descrizione:
Inserto VCGT-AL con foro. Geometria superpositiva a tagliente affilato per tornitura universale con taglio continuo di alluminio e sue leghe. Qualità non rivestita HF7 , applicazione principale classe ISO K15, N20, secondaria M15, S15, H15.

Insert VCGT-AL with hole. High positive geometry with sharp cutting edge for universal turning with continuous cut of aluminium and aluminium alloys. Not coated quality HF7, main application class ISO K15, N20, secondary class M15, S15, H15.

Art. 18613

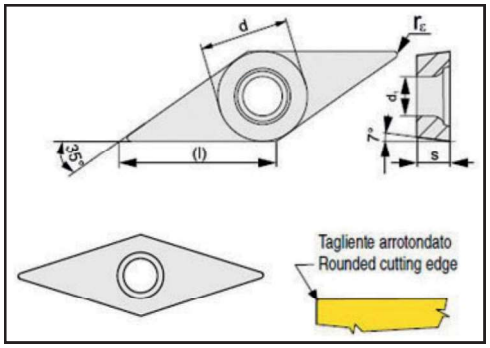
Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18613540	**VCGT 130304F-AL**	13,8	7,940	3,4	3,18	0,4	0,05 - 0,20	0,4 - 3,3
18613580	**VCGT 130308F-AL**	13,8	7,940	3,4	3,18	0,8	0,10 - 0,35	0,8 - 3,3

Inserto VCGW T5305
Insert VCGW T5305

Art. 18647

IMPERO DORMER PRAMET



Descrizione:
Inserto VCGW con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppoP, K e H con elevate velocità di taglio.

Insert VCGW with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

Art. 18647

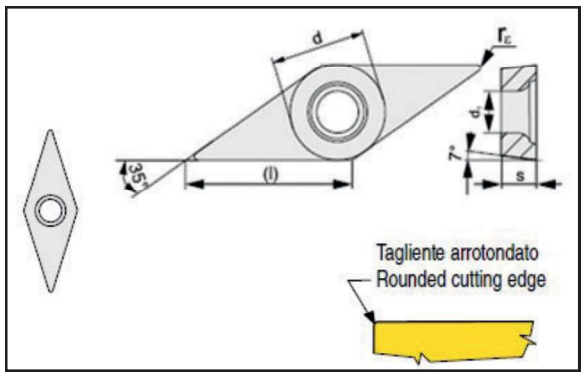
Dati tecnici / Technical data

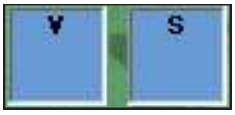
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18647440	**VCGW 130404**	13,8	7,94	3,4	3,18	0,4	0,10 - 0,20	0,4 - 3,3
18647480	**VCGW 130408**	13,8	7,94	3,4	3,18	0,8	0,10 - 0,40	0,8 - 3,3

Inserto VCMW T5305
Insert VCMW T5305

Art. 18650

IMPERO DORMER PRAMET





Descrizione:
Inserto VCMW con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppoP, K e H con elevate velocità di taglio.

Insert VCMW with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

Art. 18650

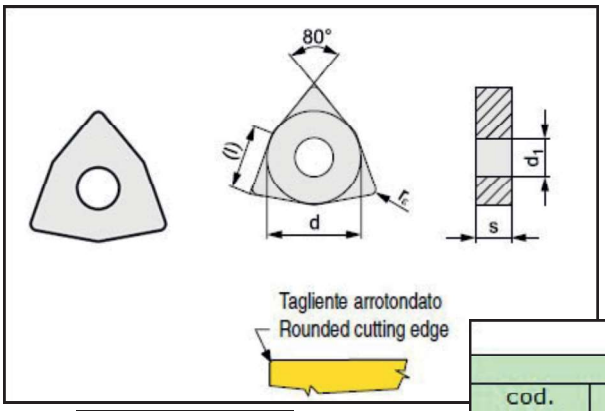
Dati tecnici / Technical data

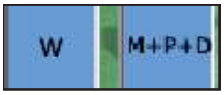
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18650480	**VCMW 160408**	16,5	9,525	4,4	4,76	0,8	0,05 - 0,40	0,8 - 3,7

Inserti per tornitura - Inserti per tornitura
Portainserti e inserti per troncatura e scanalatura

Inserto WNMA T5305
Insert WNMA T5305

Art. 18676 IMPERO DORMER PRAMET





Descrizione:
Inserto WNMA con foro. Geometria negativa a spoglia zero per finitura e semisgrossatura di materiali del gruppo K e H, per taglio continuo e leggermente interrotto. Rivestimento CVD T5305, applicazione principale classe ISO K10, secondaria H15, con elevata resistenza all'abrasione, per la lavorazione di materiali del gruppoP, K e H con elevate velocità di taglio.

Insert WNMA with hole. Negative geometry with zero rake for fine finishing and semi-roughing for materials in groups K and H, for continuous and moderately interrupted cut. Coating CVD T5305, main application class ISO K10, secondary class H15, with high abrasion resistance, for machining materials in group P, K and H with high cutting speeds.

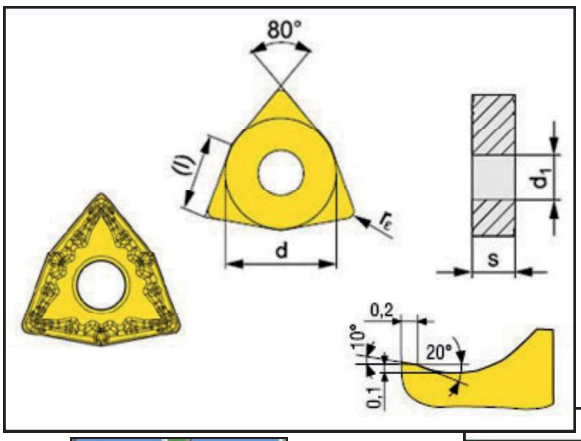
Art. 18676

Dati tecnici / Technical data

cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18676480	**WNMA 080408**	8,7	12,7	5,16	4,76	0,8	0,10 - 0,60	0,8 - 4,4

Inserto WNMG-FM T9325
Insert WNMG-FM T9325

Art. 18682 IMPERO DORMER PRAMET



Descrizione:
Inserto WNMG-FM negativo con foro. Geometria di finitura e semisgrossatura per taglio continuo e leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e possibile S. Rivestimento CVD T9325, applicazione principale classe ISO P25, M20, secondaria K25.

Insert WNMG-FM negative-rake with hole. Finishing and semi-roughing geometry for continuous and sligthly interrupted cut on machining material groups P and M, secondary application K and supplementary application S. Coating CVD T9325, main application class ISO P25, M20, secondary K25.

Art. 18682

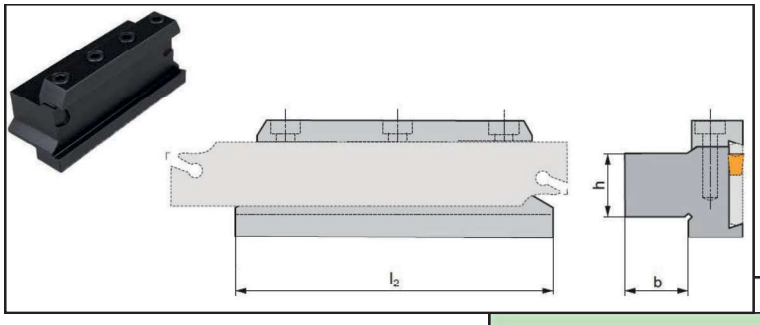
Dati tecnici / Technical data

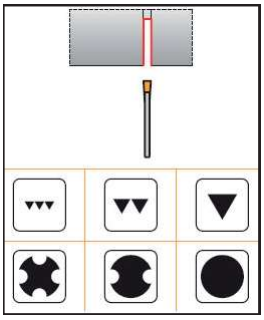
cod. code	codice ISO ISO code	(l) [mm]	d [mm]	d_1 [mm]	s [mm]	r_ε [mm]	f [mm/giro]	a_p [mm]
18682180	**WNMG 060408E-FM**	6,5	9,525	3,81	4,76	0,8	0,10 - 0,35	0,8 - 3,0

Inserti per tornitura - Portainserti e inserti per troncatura e scanalatura

Portalama per troncatura DU2020
DU2020 cutting-off blade holder

Art. 18732 IMPERO DORMER PRAMET





Descrizione:
Portalama DU 2020 per lame da troncatura. Articolo su richiesta.

DU2020 cutting-off blade holder. Item on demand.

Art. 18732

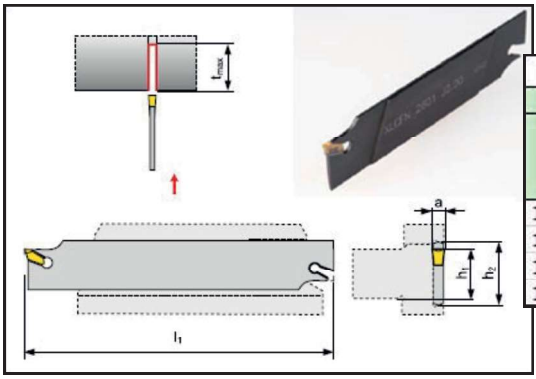
Dati tecnici / Technical data

cod. code	tipo kind	h [mm]	b [mm]	l_2 [mm]	peso weight [kg]	ricambi spare parts	lame blades	
18732209	**26-DU 2020**	20	20	90	0,67	ND2	GI007	XLC.N 26

Inserti per tornitura - Portainserti per troncatura e scanalatura
Inserti per troncatura e scanalatura

Lama portainserti XLCFN per troncatura
XLCFN cutting-off toolholder blade

Art. 18737 IMPERO DORMER PRAMET



Art. 18737
Dati tecnici / Technical data

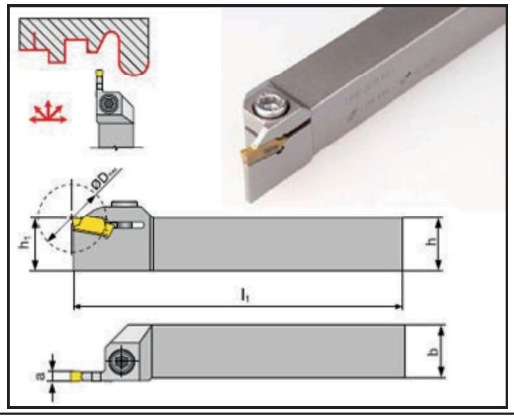
cod. code	tipo kind	h_1 [mm]	h_2 [mm]	l_1 [mm]	a [mm]	t_{max} [mm]	peso weight [kg]	inserti inserts
18737230	**XLCFN 2602 J 3.00**	20	26	110	3,1	37,5	0,05	LFMX 3.10 ...
18737240	**XLCFN 2603 J 4.00**	20	26	110	4,1	40	0,06	LFMX 4.10 ...
18737330	**XLCFN 3202 M 3.00**	25	32	150	3,1	50	0,08	LFMX 3.10 ...
18737340	**XLCFN 3203 M 4.00**	25	32	150	4,1	50	0,11	LFMX 4.10 ...

Descrizione:
Lama portainserti XLCFN per troncatura.

XLCFN cutting-off toolholder blade.

Portainserti GFIR per troncatura e scanalatura
GFIR toolholder for grooving and cutting-off

Art. 18747 IMPERO DORMER PRAMET



Art. 18747
Dati tecnici / Technical data

cod. code	tipo kind	h=h_1 [mm]	h_2 [mm]	l_1 [mm]	a [mm]	D_{max} [mm]	peso weight [kg]	inserti inserts
18747316	**GFIR 1616 H 03**	16	16	100	3	18	0,3	LCM.0316...
18747320	**GFIR 2020 K 03**	20	20	125	3	18	0,4	LCM.0316...

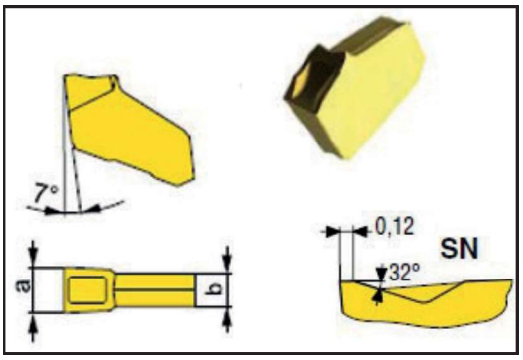
Descrizione:
Portainserti GFIR per troncatura e scanalatura esterna.

GFIR toolholder for external grooving and cutting-off.

Inserti per tornitura - Inserti per troncatura - scanalatura

Inserto LFMX SN-M2 T8330
Insert LFMX SN-M2 T8330

Art. 18776 IMPERO DORMER PRAMET



Art. 18776
Dati tecnici / Technical data

cod. code	tipo kind	a [mm]	b [mm]	r [mm]	f [mm/giro]
18776310	**LFMX 305600-N4**	$3,1^{\pm 0,04}$	2,6	0,2	0,08 - 0,20
18776410	**LFMX 407100-N4**	$4,1^{\pm 0,04}$	3,6	0,2	0,08 - 0,25

Descrizione:
Inserto LFMX SN-M2 per troncatura. Geometria universale per taglio leggermente interrotto su gruppi di materiali P ed M, applicazione secondaria K e S, possibile N e H. Rivestimento PVD T8330, applicazione principale classe ISO P30, M25, K30, secondaria S25, possibile N25, H20.

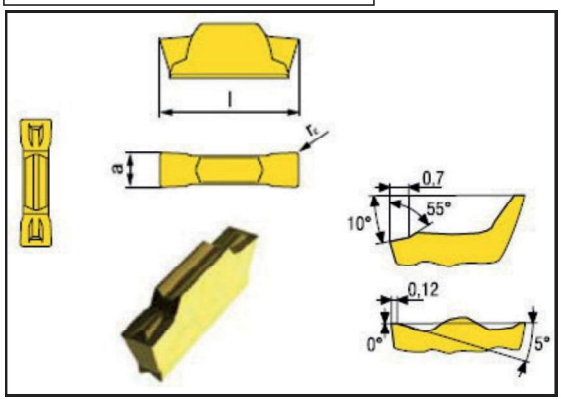
Insert LFMX SN-M2 for cutting off. Universal geometry for sligthly interrupted cut on machining material groups P and M, secondary application K and S, supplementary application N and H. Coating PVD T8330, main application class ISO P30, M25, K30, secondary S25, possible N25, H20.

SU QUESTO CATALOGO TABELLE TECNICHE DISPONIBILI:
Codifica ISO a pag.146
Legenda pag. 165
Qualità inserti pag. 165
Applicazioni pag. 165

Inserti per tornitura - Inserti per troncatura e scanalatura - Portainserti per filettatura

Inserto LCMF-M T8330
Insert LCMF-M T8330

Art. 18786 IMPERO DORMER PRAMET



Descrizione:
Inserto LCMF -M per esecuzione di gole e tornitura assiale. Geometria per tornitura leggera e finitura su gruppi di materiali P ed K, applicazione secondaria M. Rivestimento PVD T8330, applicazione principale classe ISO P30, M25, K30, secondaria S25, possibile N25, H20.

Insert LCMF -M for axial turning and grooving. Geometry for fineb turning and finishing on machining material groups P and K, secondary application M. Coating PVD T8330, main application class ISO P30, M25, K30, secondary S25, possible N25, H20.

Art. 18786

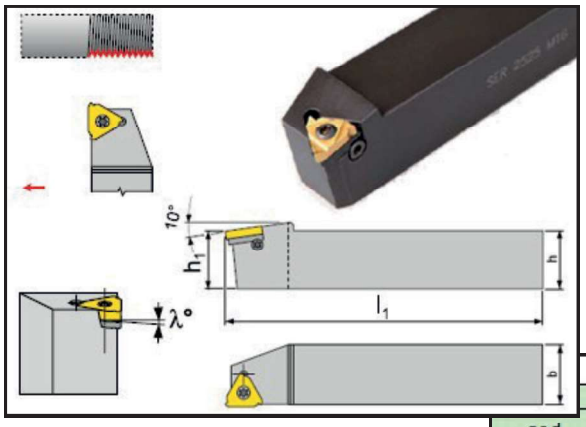
Dati tecnici / Technical data

cod. code	tipo kind	a [mm]	l [mm]	r [mm]	a_p [mm]	f [mm/giro]
18786340	**LCMF 031604-M**	$3,1^{\pm 0,05}$	16,4	0,4	0,3 - 3,0	0,10 - 0,25

Inserti per tornitura - Portainserti per filettatura

Portainserti SER per filettatura esterna destra
SER toolholder for external threading

Art. 18852 IMPERO DORMER PRAMET



Descrizione:
Portainserti SER per filettatura esterna destra.

SER toolholder for right external threading.

ART. 18852

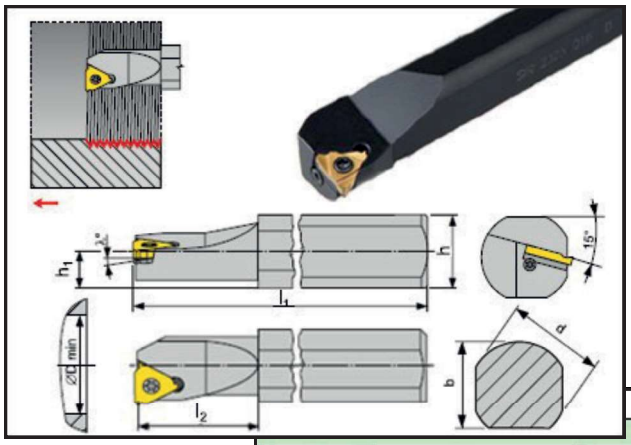
Dati tecnici / Technical data

cod. code	tipo kind	h = h_1 [mm]	b [mm]	l_1 [mm]	λ *	peso weight [kg]	ricambi spare parts	inserti inserts
18852200	**SER 2020 K 16**	20	20	125	-1,5° ÷ +4,5°	0,5	Z12	TN 16ER ...
18852250	**SER 2525 M 16**	25	25	150	-1,5° ÷ +4,5°	0,7	Z12	TN 16ER ...

* l'angolo di inclinazione λ può essere variato tra -1,5° e +4,5° sostituendo la sottoplacchetta
* the helix angle λ can be varied between -1,5° e +4,5° by changing the anvil

Portainserti SIR per filettatura interna destra
SIR toolholder for internal right threading

Art. 18858 IMPERO DORMER PRAMET



Descrizione:
Portainserti SIR per filettatura interna destra.

SIR toolholder for internal threading.

ART. 18858

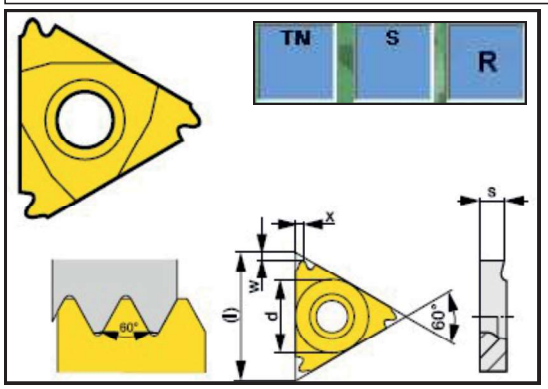
Dati tecnici / Technical data

cod. code	tipo kind	b [mm]	d [mm]	D_{min} [mm]	h [mm]	h_1 [mm]	l_1 [mm]	λ	peso weight [kg]	ricambi spare parts	inserti inserts
18858140	**SIR 1416 N 16-1**	14	16	22	14,5	7,5	160	-1,5° ÷ +4,5°	0,25	Z9	TN 16NR ...

* l'angolo di inclinazione λ può essere variato tra -1,5° e +4,5° sostituendo la sottoplacchetta
* the helix angle λ can be varied between -1,5° e +4,5° by changing the anvil

Inserto TN universale per filettatura esterna metrica 60°
Universal external threading insert TN metric 60°

Art. 18873 IMPERO DORMER PRAMET



Descrizione:
Inserto TN per filettatura metrica ISO 60°, esecuzione esterna destra, profilo parziale. Rivestito PVD T8030 altamente versatile, velocità di taglio medie; applicazione principale classe ISO P35, M25, K30, secondaria N25, S20, H20.

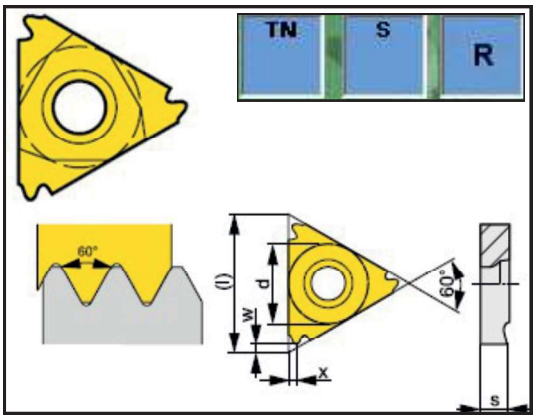
Universal insert TN for metric ISO threading 60°, right external execution, partial profile. Coating PVD T8030, highly versatile, medium cutting speeds; main application class ISO P35, M25, K30, secondary N25, S20, H20.

Art. 18873
Dati tecnici / Technical data

cod. code	tipo kind	passo pitch [mm]	l [mm]	d [mm]	s [mm]	x [mm]	w [mm]
18873150	**TN 16ERG60**	1,75 - 3,00	16,5	9,525	3,47	1,5	1,1

Inserto TN universale per filettatura interna metrica 60°
Universal internal threading insert TN metric 60°

Art. 18879 IMPERO DORMER PRAMET



Descrizione:
Inserto TN per filettatura metrica ISO 60°, esecuzione interna destra, profilo parziale. Rivestito PVD T8030 altamente versatile, velocità di taglio medie; applicazione principale classe ISO P35, M25, K30, secondaria N25, S20, H20.

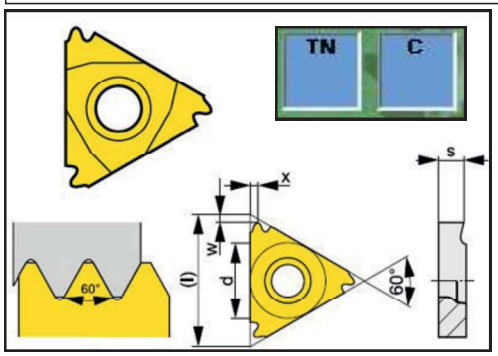
Universal insert TN for metric ISO threading 60°, right internal execution, partial profile. Coating PVD T8030, highly versatile, medium cutting speeds; main application class ISO P35, M25, K30, secondary N25, S20, H20.

Art. 18879
Dati tecnici / Technical data

cod. code	tipo kind	passo pitch [mm]	l [mm]	d [mm]	s [mm]	x [mm]	w [mm]
18879050	**TN 16NRA60**	0,50 - 1,50	16,5	9,525	3,47	0,8	0,6
18879150	**TN 16NRG60**	1,75 - 3,00	16,5	9,525	3,47	1,5	1,1

Inserto TN universale per filettatura esterna metrica 60°
Universal external threading insert TN metric 60°

Art. 18887 IMPERO DORMER PRAMET



Descrizione:
Inserto TN per filettatura metrica ISO 60°, esecuzione esterna destra, profilo parziale. Rivestito PVD T8030 altamente versatile, velocità di taglio medie; applicazione principale classe ISO P35, M25, K30, secondaria N25, S20, H20.

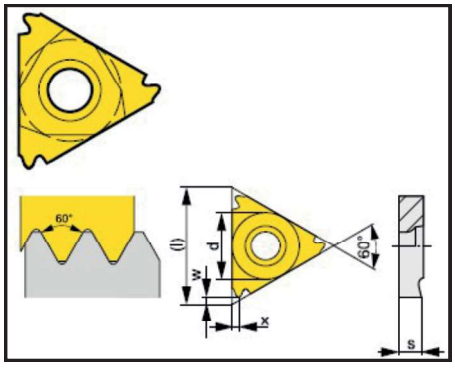
Universal insert TN for metric ISO threading 60°, right external execution, partial profile. Coating PVD T8030, highly versatile, medium cutting speeds; main application class ISO P35, M25, K30, secondary N25, S20, H20.

Art. 18887
Dati tecnici / Technical data

cod. code	tipo kind	passo pitch [mm]	l [mm]	d [mm]	s [mm]	x [mm]	w [mm]
18887100	**TN 16ER100M**	1,00	16,5	9,525	3,47	0,8	0,8
18887125	**TN 16ER125M**	1,25	16,5	9,525	3,47	0,8	0,8
18887150	**TN 16ER150M**	1,50	16,5	9,525	3,47	0,8	0,8
18887200	**TN 16ER200M**	2,00	16,5	9,525	3,47	1,5	1,2
18887300	**TN 16ER300M**	3,00	16,5	9,525	3,47	1,5	1,2

Inserto TN per filettatura interna metrica 60°
Internal threading insert TN metric 60°

Art. 18891 IMPERO DORMER PRAMET



Descrizione:
Inserto TN per filettatura metrica ISO 60°, esecuzione interna destra, profilo pieno. Rivestito PVD T8030 altamente versatile, velocità di taglio medie; applicazione principale classe ISO P35, M25, K30, secondaria N25, S20, H20.

Insert TN for metric ISO threading 60°, right internal execution, full profile. Coating PVD T8030, highly versatile, medium cutting speeds; main application class ISO P35, M25, K30, secondary N25, S20, H20.

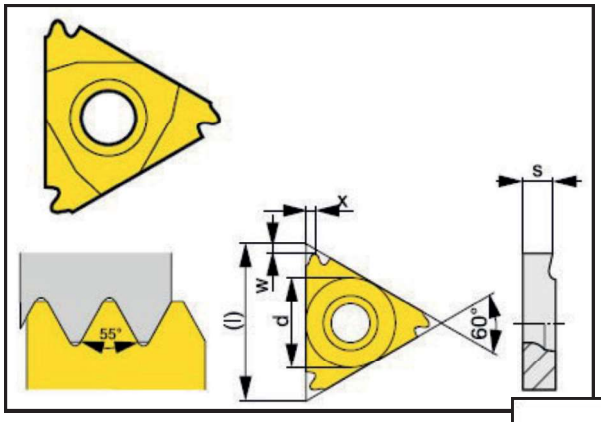
Art. 18891
Dati tecnici / Technical data

cod. code	tipo kind	passo pitch [mm]	l [mm]	d [mm]	s [mm]	x [mm]	w [mm]
18891100	**TN 16NR100M**	1,00	16,5	9,525	3,47	0,7	1,3
18891125	**TN 16NR125M**	1,25	16,5	9,525	3,47	0,8	1,3
18891150	**TN 16NR150M**	1,50	16,5	9,525	3,47	1,0	1,3
18891175	**TN 16NR175M**	1,80	16,5	9,525	3,47	1,4	1,3
18891200	**TN 16NR200M**	2,00	16,5	9,525	3,47	1,4	1,3
18891250	**TN 16NR250M**	2,50	16,5	9,525	3,47	1,4	1,3
18891300	**TN 16NR300M**	3,00	16,5	9,525	3,47	1,5	1,3

Inserti per tornitura - Inserti per filettatura - Accessori per inserti per tornitura

Inserto TN per filettatura esterna Withwoth 55°
External threading insert TN Withworth 55°

Art. 18909 IMPERO PRAMET DORMER PRAMET



Descrizione:
Inserto TN per filettatura Withworth 55° ISO228, esecuzione esterna destra, profilo pieno. Rivestito PVD T8030 altamente versatile, velocità di taglio medie; applicazione principale classe ISO P35, M25, K30, secondaria N25, S20, H20.

Insert TN for Withworth 55° threading ISO228, right external execution, full profile. Coating PVD T8030, highly versatile, medium cutting speeds; main application class ISO P35, M25, K30, secondary N25, S20, H20.

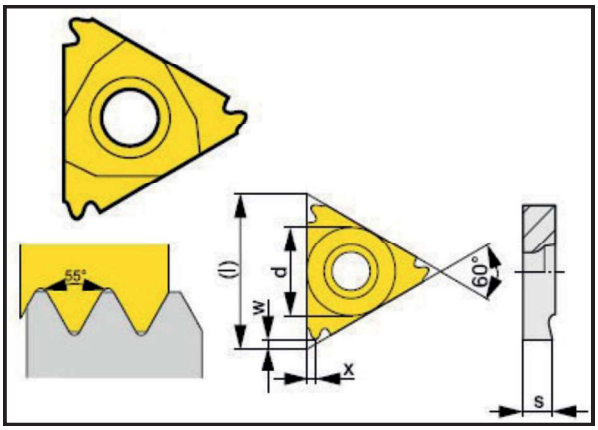
Art. 18909

Dati tecnici / Technical data

cod. code	tipo kind	passo pitch ["]	l [mm]	d [mm]	s [mm]	x [mm]	w [mm]
18909200	**TN 16ER190W**	19	16,5	9,525	3,47	1,0	0,8
18909275	**TN 16ER140W**	14	16,5	9,525	3,47	1,2	1,0
18909325	**TN 16ER110W**	11	16,5	9,525	3,47	1,5	1,1

Inserto TN per filettatura interna Withwoth 55°
Internal threading insert TN Withworth 55°

Art. 18915 IMPERO PRAMET DORMER PRAMET



Descrizione:
Inserto TN per filettatura Withworth 55° ISO228, esecuzione interna destra, profilo pieno. Rivestito PVD T8030 altamente versatile, velocità di taglio medie; applicazione principale classe ISO P35, M25, K30, secondaria N25, S20, H20.

Insert TN for Withworth 55° threading ISO228, right internal execution, full profile. Coating PVD T8030, highly versatile, medium cutting speeds; main application class ISO P35, M25, K30, secondary N25, S20, H20.

Art. 18915

Dati tecnici / Technical data

cod. code	tipo kind	passo pitch ["]	l [mm]	d [mm]	s [mm]	x [mm]	w [mm]
18915200	**TN 16NR190W**	19	16,5	9,525	3,47	1,0	0,8
18915275	**TN 16NR140W**	14	16,5	9,525	3,47	1,2	1,0
18915325	**TN 16NR110W**	11	16,5	9,525	3,47	1,5	1,1

Accessori - Accessori per inserti per tornitura

Vite di bloccaggio inserti per inserti con sistema S
Fixing screw for S system inserts

Art. 18960 IMPERO PRAMET DORMER PRAMET

Descrizione:
Vite di bloccaggio inserti per sistema S.

Fixing screw for S system inserts.

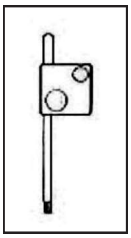
ART. 18960

Dati tecnici / Technical data

cod. code	tipo kind	filetto thread [mm]	altezza high [mm]	chiave spanner	ricambi spare parts
18960220	**28992**	M2,2	4,2	T7	SE21
18960300	**TORX-P-M3x8/9**	M3	8	T9	
18960350	**5513 020-09**	M3,5	8	T15	
18960410	**CS4008-T15P**	M4	8	T15	
18960420	**DVF 3133**	M5	11	T20	

Chiave per viti di bloccaggio per inserti con sistema S
Wrench for S system fixing screws for inserts

Art. 18963 IMPERO DORMER PRAMET



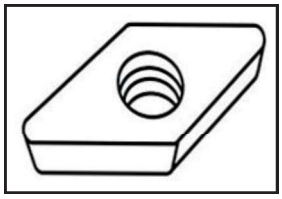
Descrizione:
Chiave per viti di bloccaggio per inserti con sistema S.

Wrench for S system fixing screws for inserts.

ART. 18963	
Dati tecnici Technical data	
cod. code	tipo kind
18963072	MA2-8304
18963090	T9 MD 703

Sottoplacchetta per inserti di forma D
Shim for D inserts

Art. 18980 IMPERO DORMER PRAMET



Descrizione:
Sottoplacchetta per inserti di forma D con lato di mm 11.

Shim for D inserts with side mm 11.

Cod. Fornitore: **5322 263-01**
Manufacturer code: **5322 263-01**

Cod.18980263

Sottoplacchetta per inserti di forma TN
Shim for TN inserts

Art. 18983 IMPERO DORMER PRAMET

Descrizione:
Sottoplacchetta per inserti di forma TN con lato di mm 16.

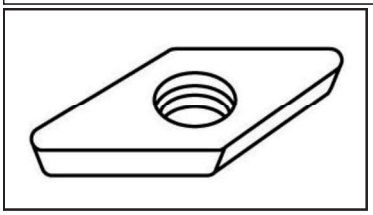
Shim for TN inserts with side mm 16.

Cod. Fornitore: **170.3.852**
Manufacturer code: **170.3.852**

Cod.18983170

Sottoplacchetta per inserti di forma V
Shim for V inserts

Art. 18987 IMPERO DORMER PRAMET



Descrizione:
Sottoplacchetta per inserti di forma V.

Shim for V inserts.

Art. 18987			
Dati tecnici / Technical data			
cod. code	tipo kind	tipo inserto insert kid	lato inserto insert side [mm]
18987260	DAP 0331	VB...	13
18989150	5322 270-01	VB...	16

Vite di bloccaggio inserti per filettatura sistema S
Fixing screw for S system threading inserts

Art. 18991 GnuBo

Descrizione:
Vite di bloccaggio per inserti per filettatura con sistema S per portainserti SER.

Fixing screw for S system threading inserts for SER toolholder.

Cod. 18991120

Sottoplacchetta per inserti di forma TC
Shim for TC inserts

Art. 18993 IMPERO DORMER PRAMET

Descrizione:
Sottoplacchetta per inserti di forma TC con lato di mm 16. Cod. 400 vite per sottoplacchetta.

Shim for TC inserts with side mm 16. Code 400 screw for shim.

Cod. Fornitore:
Manufacturer code:

Cod.18993322 SZTP-322
Cod.18993400 SD-100

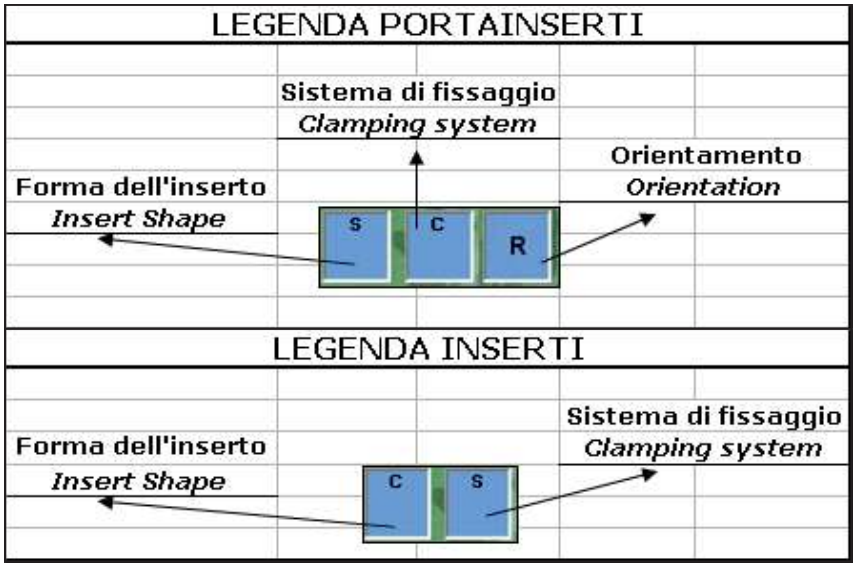
QUALITA' DEGLI INSERTI PER TORNITURA			
DENOMINAZIONE	DESCRIZIONE	APPLICAZIONI	
		OTTIMO	BUONO
T9325	rivestito CVD	P25, M20	K25
T5305	rivestito CVD	K10	H15
T5315	rivestito CVD	K15	P15, H20
6640	rivestito CVD	P30, M25	K35
HF7	non rivestito	K15, N20	M15, S15, H15
KX2	non rivestito	N10, S10	
H07	non rivestito	K15	M10
TC100	ceramico	K05	S05, H10

CLASSIFICAZIONE ISO DEI CARBURI METALLICI SINTERIZZATI		
ISO	*CONDIZIONI DI LAVORO*	*CAMPI D'IMPIEGO*
P	**Acciaio**	
P01 - P10	Finitura	Acciaio a basso tenore di carbonio, non legato, debolmente legato, legato
P10 - P20	Semifinitura	
P20 - P30	Applicazioni generiche	
P30 - P40	Sgrossatura	
P40 - P50	Sgrossatura pesante	
M	**Acciaio inox**	
M01 - M10	Finitura	Acciaio inox austenitico, ferritico, martensitico, duplex
M10 - M20	Semifinitura	
M20 - M30	Applicazioni generiche	
M30 - M40	Sgrossatura	
K	**Ghisa**	
K01 - K10	Finitura	Ghisa grigia, nodulare, malleabile
K10 - K20	Semifinitura	
K20 - K30	Applicazioni generiche	
K30 - K40	Sgrossatura	
N	**Metalli non ferrosi**	
N01 - N10	Finitura	Metalli non ferrosi, alluminio e sue leghe, rame e sue leghe
N10 - N20	Semifinitura	
N20 - N30	Applicazioni generiche	
S	**Superleghe resistenti al calore**	
S01 - S10	Finitura	Superleghe resistenti al calore a base di ferro, nichel, cobalto, refrattari, titanio
S10 - S20	Semifinitura	
S20 - S30	Applicazioni generiche	
H	**Metalli duri**	
H01 - H10	Finitura	Acciaio temprato, acciaio trattato > 45 HRC, ghisa temprata, getti
H10 - H20	Semifinitura	
H20 - H30	Applicazioni generiche	

numeri = grado di tenacità
numeri bassi = elevata resistenza all'usura, scarsa tenacità,alte velocità di taglio, bassi avanzamenti
numeri alti = bassa resistenza all'usura, alta tenacità, basse velocità di taglio, elevati avanzamenti

Gnutti Bortolo

INFORMAZIONI TECNICHE



QUALITA' DEGLI INSERTI PER TRONCATURA			
DENOMINAZIONE	DESCRIZIONE	APPLICAZIONI	
		OTTIMO	BUONO
T8330	rivestito PVD	P30, M25, K30	S25, N25, H20

QUALITA' DEGLI INSERTI PER FILETTATURA			
DENOMINAZIONE	DESCRIZIONE	APPLICAZIONI	
		OTTIMO	BUONO
T8030	rivestito PVD	P35, M25, K30	N25, S20, H20

QUALITA' DEGLI INSERTI PER FRESATURA			
DENOMINAZIONE	DESCRIZIONE	APPLICAZIONI	
		OTTIMO	BUONO
M9325	rivestito CVD	P20	M15, S10
M8310	rivestito PVD	P5, K5, H10	M05, S05
M8330	rivestito PVD	K30	P20, M20
M8340	rivestito PVD	P35, M30, S35	K30, H20
M8345	rivestito PVD	P40, M35	S35
8215	rivestito PVD	K15, H10	P10, M10, S15
8230	rivestito PVD	P30, M25, K30	S20, H20
M5315	rivestito CVD	K15, H15	P15
5020	rivestito PVD	P20, M15, S15	

QUICK ORDER

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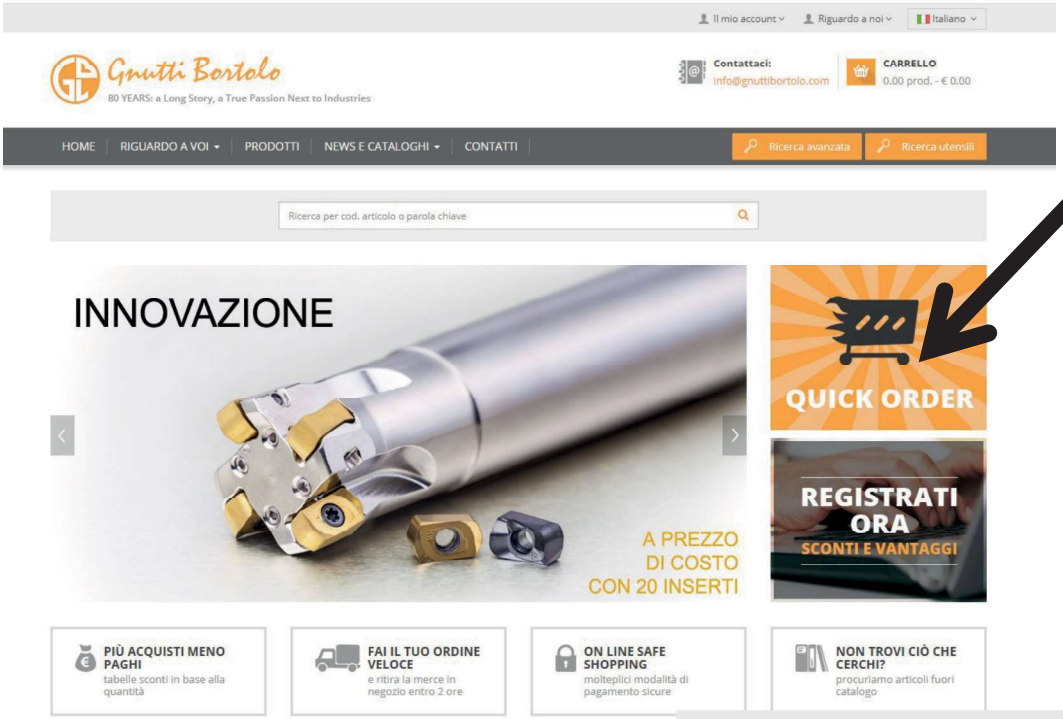
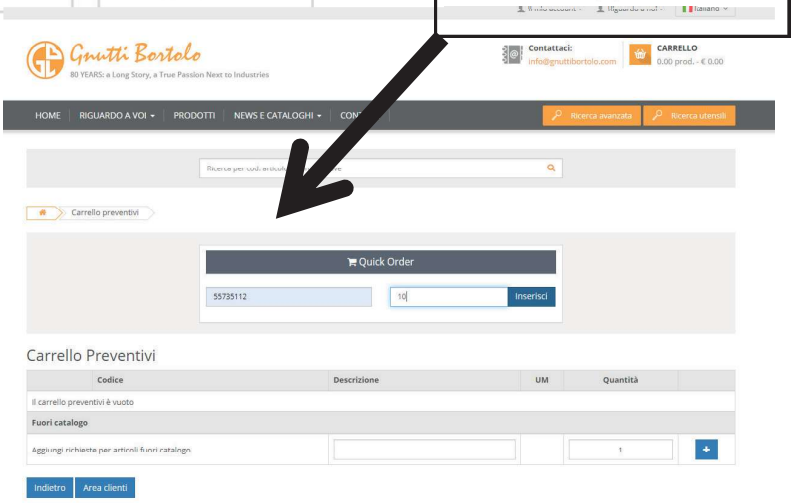
Clicca su QUICK ORDER dalla home page, inserisci le tue credenziali per fare il login e inserisci codice e quantita' … nulla di piu' immediato e sicuro !!!

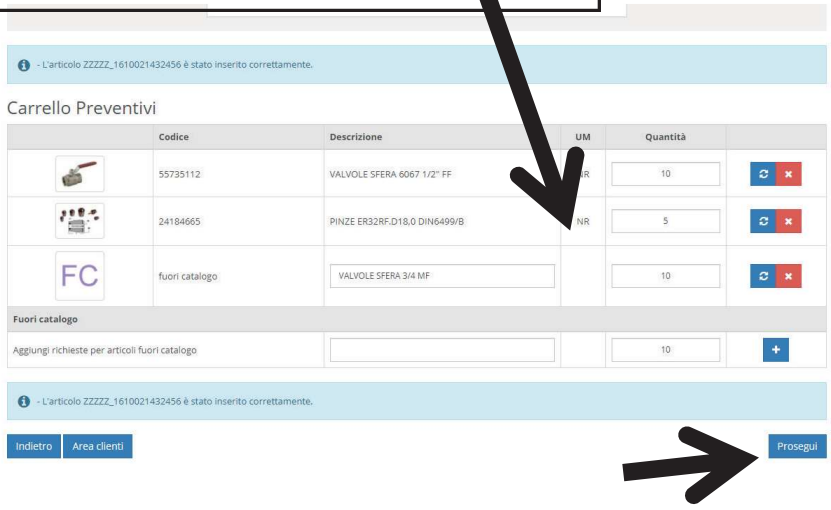


CLICCO SU QUICK ORDER E INSERISCO IL MIO USERNAME E PASSWORD PER ACCEDERE ALL' AREA RISERVATA

INSERISCO CODICE ARTICOLO A 8 CIFRE E LA QUANTITA' CHE MI INTERESSA…



CONTINUO COSI' FINO A QUANDO NON HO INSERITO TUTTO IL MIO ORDINE.. POSSO ANCHE INSERIRE ARTICOLI FUORI CATALOGO, BASTA COMPILARE LA DESCRIZIONE (piu' dettagliata possibile) E LA QUANTITA' ! POI CONCLUDO CLICCANDO SU Prosegui, CONTROLLO CHE I MIEI DATI SIANO CORRETTI ED INVIO!



IL TUO ORDINE SARA' PRESO IN CARICO DA UN OPERATORE DI VENDITA CHE SEGUIRA' IL TUO ORDINE METICOLOSAMENTE: MANDERA' UNA EMAIL DI CONFERMA CON TEMPI DI CONSEGNA ,TI CONTATTERA' PER ACCORDARSI SULLA MODALITA' DI CONSEGNA (se non concordata preventivamente) E PER DELUCIDAZIONI, OVE NECESSARIE

Gnutti Bortolo

… PERCHE' LA NOSTRA MISSIONE E' VELOCIZZARE IL TUO PROCESSO DI ACQUISTO E LIBERARLO DA OGNI ERRORE, TRAMITE PERSONE NON AUTOMATISMI INFORMATICI!