

Metric coarse thread M

Tolerance ISO 2 (6H)

N° EH0100 / EH0101



N° EH10310 / EH10311 s-tap



N° EH0502 / EH0503 x-tap



N° EH0570 / EH0571 x-tap



N° EH0580 / EH0581 x-tap



N° EH0590 x-tap-R



N° EH0591 x-tap-R



N° EH0512 / EH0513



N° EH0595 / EH0596 h-tap



N° EH6900 / EH6901 durotap H



N° ET0400 / ET0401 Inotap



N° ET0570 / ET0571 x-tap



N° ET0580 / ET0581 x-tap



N° ET0590 x-tap-R



N° ET0591 x-tap-R



N° EH0600 / EH0601 c-tap



08	HSS PM/F		Rm <850	143
08	HSS-E Co5		Rm <850	145
11	HSS PM/F		Rm 850-1100	147
11	HSS PM/F		Rm 850-1100	149
11	HSS PM/F		Rm 850-1100	153
11	HSS PM/F		Rm 850-1100	155
11	HSS PM/F		Rm 850-1100	157
15	HSS PM/F		Rm 1100-1500	159
15	HSS PM/F		Rm 1100-1500	161
60	HM MG10		HRC 48- >60	163
In	HSS PM/F		Inox Stainless	165
In	HSS PM/F		Inox Stainless	167
In	HSS PM/F		Inox Stainless	169
In	HSS PM/F		Inox Stainless	171
In	HSS PM/F		Inox Stainless	173
GG	HSS PM/F		GG(G) Cast iron	175

M

Metric coarse thread M

Tolerance ISO 2 (6H)

N° EH0620 / EH0621	c-tap	
N° EH6500	durotap GG-R	
N° EH6501	durotap GG-R	
N° EH6550 / EH6551	durotap GG	
N° EI0020 / EI0021		
N° EI0050 / EI0051		
N° EH6300	durotap A-R	
N° EH6301	durotap A-R	
N° EH6350 / EH6351	durotap A	
N° ET0705 / ET0706	titap	
N° ET0755 / ET0756	titap	
N° E0598	n-tap	
N° EH0109	polytap-R	
N° EH0110	polytap-R	
N° EH0229	polytap-R	
N° EH0230	polytap-R	

	HSS PM/F		GG(G) Cast iron		177
	HM MG10		GG(G) Cast iron		179
	HM MG10		GG(G) Cast iron		181
	HM MG10		GG(G) Cast iron		183
	HSS PM/F		Al Aluminium Alloy	Cu Copper	185
	HSS PM/F		Al Aluminium Alloy	Cu Copper	187
	HM MG10		Al Aluminium Cast		189
	HM MG10		Al Aluminium Cast		191
	HM MG10		Al Aluminium Cast		193
	HSS PM/F		Ti Titanium		195
	HSS PM/F		Ti Titanium		199
	HSS PM/F		Ni Nickel Alloy		201
	HSS PM/F		Rm <850-1100	Inox Stainless	203
	HSS PM/F		Rm <850-1100	Inox Stainless	205
	HSS PM/F		Rm <850-1100	Inox Stainless	207
	HSS PM/F		Rm <850-1100	Inox Stainless	209

Metric coarse thread M

Tolerance ISO 2 (6H)

N° E10800 / E10801

u-tap



	HSS-E Co5		Rm <850		211
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N° E10820 / E10821

u-tap



	HSS-E Co5		Rm <850		215
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N° E10340

extra lang



	HSS PM/F		Rm <850		219
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N° E10350

extra lang



	HSS PM/F		Rm <850		221
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M

Tolerance ISO 2 (6H) **LH**

N° E10122 / E10123



	HSS-E Co5		Rm <850		223
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N° E10222 / E10223



	HSS-E Co5		Rm <850		225
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Tolerance ISO 2 +0.1

N° E10118 / E10119



	HSS-E Co5		Rm <850		227
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N° E10220 / E10221



	HSS-E Co5		Rm <850		229
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Tolerance ISO 3 (6G)

N° EH0504 / EH0505

x-tap



	HSS PM/F		Rm 850-1100		231
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N° EH0572 / EH0573

x-tap



	HSS PM/F		Rm 850-1100		233
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Tolerance ISO 1 (4H)

N° E10110



	HSS-E Co5		Rm <850		235
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N° E10214



	HSS-E Co5		Rm <850		237
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Metric coarse thread M / MJ

Tolerance 7G

N° E10114 / E10115



	HSS-E Co5		Rm <850		239
	HSS-E Co5		Rm <850		241

N° E10218 / E10219



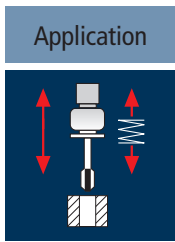
MJ Tolerance 4H

N° E0599



	HSS PM/F		Ni Nickel Alloy		243
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M



Application	Material	M			V_c			n			v_f			V_c			n			v_f			V_c			n			v_f		
		ϕ	P		$1.5 \times d$			$1.5 \times d$			$1.5 \times d$			$2.0 \times d$			$2.0 \times d$			$2.0 \times d$			$3.0 \times d$			$3.0 \times d$			$3.0 \times d$		
Steel < 500 N/mm ²	Steel < 500 N/mm ²	M 2	2.0	0.40	28	4455	1782	23	3660	1464	18	2865	1146	23	3660	1464	18	2865	1146	23	3660	1464	18	2865	1146	23	3660	1464	18	2865	1146
		M 2.5	2.5	0.45	28	3565	1604	23	2930	1319	18	2290	1031	23	2930	1319	18	2290	1031	23	2930	1319	18	2290	1031	23	2930	1319	18	2290	1031
		M 3	3.0	0.50	28	2970	1485	23	2440	1220	18	1910	955	23	2440	1220	18	1910	955	23	2440	1220	18	1910	955	23	2440	1220	18	1910	955
		M 4	4.0	0.70	28	2230	1561	23	1830	1281	18	1430	1001	23	1830	1281	18	1430	1001	23	1830	1281	18	1430	1001	23	1830	1281	18	1430	1001
		M 5	5.0	0.80	28	1785	1428	23	1465	1172	18	1145	916	23	1465	1172	18	1145	916	23	1465	1172	18	1145	916	23	1465	1172	18	1145	916
		M 6	6.0	1.00	28	1485	1485	23	1220	1220	18	955	955	23	1220	1220	18	955	955	23	1220	1220	18	955	955	23	1220	1220	18	955	955
		M 8	8.0	1.25	28	1115	1394	23	915	1144	18	715	894	23	915	1144	18	715	894	23	915	1144	18	715	894	23	915	1144	18	715	894
		M10	10.0	1.50	28	890	1335	23	730	1095	18	575	863	23	730	1095	18	575	863	23	730	1095	18	575	863	23	730	1095	18	575	863
		M12	12.0	1.75	28	745	1304	23	610	1068	18	475	831	23	610	1068	18	475	831	23	610	1068	18	475	831	23	610	1068	18	475	831
		M14	14.0	2.00	28	635	1270	23	525	1050	18	410	820	23	525	1050	18	410	820	23	525	1050	18	410	820	23	525	1050	18	410	820
		M16	16.0	2.00	28	555	1110	23	460	920	18	360	720	23	460	920	18	360	720	23	460	920	18	360	720	23	460	920	18	360	720
		M18	18.0	2.50	28	495	1238	23	405	1013	18	320	800	23	405	1013	18	320	800	23	405	1013	18	320	800	23	405	1013	18	320	800
		M20	20.0	2.50	28	445	1113	23	365	913	18	285	713	23	365	913	18	285	713	23	365	913	18	285	713	23	365	913	18	285	713
		M22	22.0	2.50	28	405	1013	23	335	838	18	260	650	23	335	838	18	260	650	23	335	838	18	260	650	23	335	838	18	260	650
		M24	24.0	3.00	28	370	1110	23	305	915	18	240	720	23	305	915	18	240	720	23	305	915	18	240	720	23	305	915	18	240	720
Steel 500 - 850 N/mm ²	Steel 500 - 850 N/mm ²	M 2	2.0	0.40	25	3980	1592	20	3185	1274	15	2385	954	20	3185	1274	15	2385	954	20	3185	1274	15	2385	954	20	3185	1274	15	2385	954
		M 2.5	2.5	0.45	25	3185	1433	20	2545	1145	15	1910	860	20	2545	1145	15	1910	860	20	2545	1145	15	1910	860	20	2545	1145	15	1910	860
		M 3	3.0	0.50	25	2655	1328	20	2120	1060	15	1590	795	20	2120	1060	15	1590	795	20	2120	1060	15	1590	795	20	2120	1060	15	1590	795
		M 4	4.0	0.70	25	1990	1393	20	1590	1113	15	1195	837	20	1590	1113	15	1195	837	20	1590	1113	15	1195	837	20	1590	1113	15	1195	837
		M 5	5.0	0.80	25	1590	1272	20	1275	1020	15	955	764	20	1275	1020	15	955	764	20	1275	1020	15	955	764	20	1275	1020	15	955	764
		M 6	6.0	1.00	25	1325	1325	20	1060	1060	15	795	795	20	1060	1060	15	795	795	20	1060	1060	15	795	795	20	1060	1060	15	795	795
		M 8	8.0	1.25	25	995	1244	20	795	994	15	595	744	20	795	994	15	595	744	20	795	994	15	595	744	20	795	994	15	595	744
		M10	10.0	1.50	25	795	1193	20	635	953	15	475	713	20	635	953	15	475	713	20	635	953	15	475	713	20	635	953	15	475	713
		M12	12.0	1.75	25	665	1164	20	530	928	15	400	700	20	530	928	15	400	700	20	530	928	15	400	700	20	530	928	15	400	700
		M14	14.0	2.00	25	570	1140	20	455	910	15	340	680	20	455	910	15	340	680	20	455	910	15	340	680	20	455	910	15	340	680
		M16	16.0	2.00	25	495	990	20	400	800	15	300	600	20	400	800	15	300	600	20	400	800	15	300	600	20	400	800	15	300	600
		M18	18.0	2.50	25	440	1100	20	355	888	15	265	663	20	355	888	15	265	663	20	355	888	15	265	663	20	355	888	15	265	663
		M20	20.0	2.50	25	400	1000	20	320	800	15	240	600	20	320	800	15	240	600	20	320	800	15	240	600	20	320	800	15	240	600
		M22	22.0	2.50	25	360	900	20	290	725	15	215	538	20	290	725	15	215	538	20	290	725	15	215	538	20	290	725	15	215	538
		M24	24.0	3.00	25	330	990	20	265	795	15	200	600	20	265	795	15	200	600	20	265	795	15	200	600	20	265	795	15	200	600

Taps



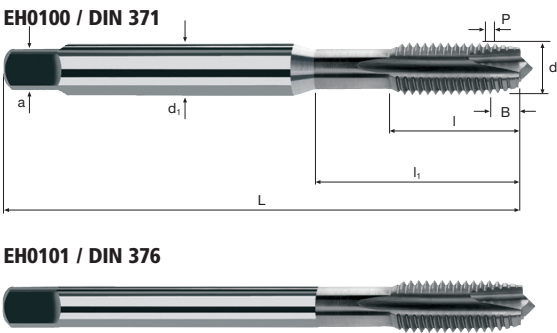
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

Form B



Rm < 850	Rm 850-1100								
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Example: Order-N°.										Article-N°.		α-Code										TiCN	
										EH0100		.034										EH0100	
Ø Code	d	P	L	l	l1	d1	a																
.034	M 2	0.40	45	8	—	2.8	2.1	2	1.60													●	
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	2.05													●	
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	2.50													●	
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	3.30													●	
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	4.20													●	
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	5.00													●	
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	6.80													●	
.174	M10	1.50	100	22	39.0	10.0	8.0	3	8.50													●	

Example: Order-N°.										Article-N°.		α-Code										TiCN	
										EH0101		.240										EH0101	
Ø Code	d	P	L	l	l1	d1	a																
.240	M12	1.75	110	24	40.0	9.0	7.0	3	10.20													●	
.244	M14	2.00	110	26	40.0	11.0	9.0	3	12.00													●	
.246	M16	2.00	110	27	40.0	12.0	9.0	3	14.00													●	
.312	M18	2.50	125	30	45.0	14.0	11.0	4	15.50													●	
.314	M20	2.50	140	32	50.0	16.0	12.0	4	17.50													●	
.316	M22	2.50	140	32	50.0	18.0	14.5	4	19.50													●	
.320	M24	3.00	160	34	60.0	18.0	14.5	4	21.00													●	

Application



The diagram shows a mechanical assembly. A central vertical shaft passes through a block at the bottom. A piston is mounted on the shaft, and a spring is attached to the top of the piston. Red arrows indicate the direction of movement: a double-headed arrow on the left and a single-headed arrow pointing up on the right, suggesting the assembly can move vertically.

Material

Steel
< 500 N/mm²

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Material

Cast iron
GG(G)

Stainless steel
[Cr-Ni/1.4301]

Stainless steel
[Cr-Ni/1.4301]

[illegible][illegible]



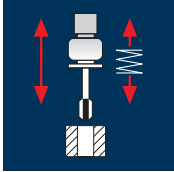
Form C



145

Application

The diagram illustrates a mechanical system. A mass, represented by a grey rectangle, is connected to a fixed base (hatched rectangle) by a spring and a damper in parallel. The spring is shown as a coiled line, and the damper is shown as a piston in a fluid. Red arrows indicate the displacement of the mass from its equilibrium position.



Material

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

[illegible]

Material
Steel
1100 - 1300 N/mm²

Steel
1100 - 1300 N/mm²



Steel
1100 - 1300 N/mm²

Steel
1100 - 1300 N/mm²

[illegible]

Taps x-tap



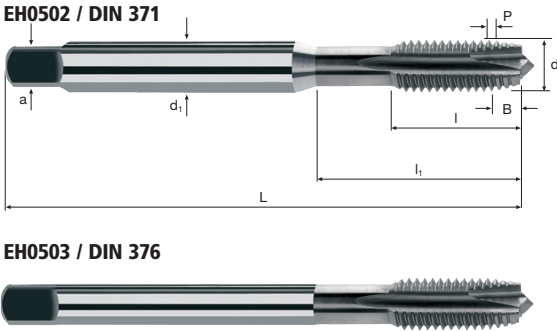
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

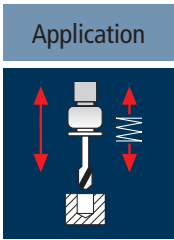
Form B



Rm < 850	Rm 850-1100	Rm 1100-1300							
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Example: Order-N°.										TiCN	
Article-N°.										EH0502	
α-Code											
Ø Code	d	P	L	l	l1	d1	a				
.034	M 2	0.40	45	8	—	2.8	2.1	2	1.60		●
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	2.05		●
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	2.50		●
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	3.30		●
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	4.20		●
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	5.00		●
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	6.80		●
.174	M10	1.50	100	22	39.0	10.0	8.0	3	8.50		●

Example: Order-N°.										TiCN	
Article-N°.										EH0503	
α-Code											
Ø Code	d	P	L	l	l1	d1	a				
.240	M12	1.75	110	24	40.0	9.0	7.0	3	10.20		●
.244	M14	2.00	110	26	40.0	11.0	9.0	3	12.00		●
.246	M16	2.00	110	27	40.0	12.0	9.0	3	14.00		●
.312	M18	2.50	125	30	45.0	14.0	11.0	4	15.50		●
.314	M20	2.50	140	32	50.0	16.0	12.0	4	17.50		●
.316	M22	2.50	140	32	50.0	18.0	14.5	4	19.50		●
.320	M24	3.00	160	34	60.0	18.0	14.5	4	21.00		●



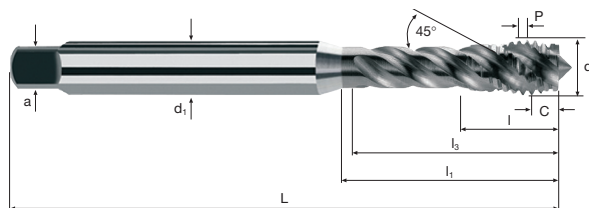
Material	M	ø	P	V _c	n	v _f	V _c	n	v _f	V _c	n	v _f
		[mm]	[mm]	1.0 x d	[min ⁻¹]	[100%]	1.5 x d	[min ⁻¹]	[100%]	2.0 x d	[min ⁻¹]	[100%]
Steel 500 - 850 N/mm ²	M 2	2.0	0.40	32	5095	2038	28	4455	1782	22	3500	1400
	M 2.5	2.5	0.45	32	4075	1834	28	3565	1604	22	2800	1260
	M 3	3.0	0.50	32	3395	1698	28	2970	1485	22	2335	1168
	M 4	4.0	0.70	32	2545	1782	28	2230	1561	22	1750	1225
	M 5	5.0	0.80	32	2035	1628	28	1785	1428	22	1400	1120
	M 6	6.0	1.00	32	1700	1700	28	1485	1485	22	1165	1165
	M 8	8.0	1.25	32	1275	1594	28	1115	1394	22	875	1094
	M10	10.0	1.50	32	1020	1530	28	890	1335	22	700	1050
Steel 850 - 1100 N/mm ²	M 2	2.0	0.40	20	3185	1274	16	2545	1018	10	1590	636
	M 2.5	2.5	0.45	20	2545	1145	16	2035	916	10	1275	574
	M 3	3.0	0.50	20	2120	1060	16	1700	850	10	1060	530
	M 4	4.0	0.70	20	1590	1113	16	1275	893	10	795	557
	M 5	5.0	0.80	20	1275	1020	16	1020	816	10	635	508
	M 6	6.0	1.00	20	1060	1060	16	850	850	10	530	530
	M 8	8.0	1.25	20	795	994	16	635	794	10	400	500
	M10	10.0	1.50	20	635	953	16	510	765	10	320	480

M

ISO 2
(6H)



**HSS
PM/F**

DIN
371

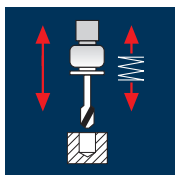
M

Rm
< 850

Rm
850-1100

[illegible]

Application



Material

Steel
500 - 850 N/mm²

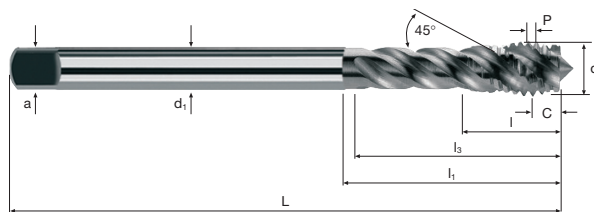
Steel
500 - 850 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

M	ø [mm]	P [mm]	V _c 1.0 x d			V _c 1.5 x d			V _c 2.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M12	12.0	1.75	32	850	1488	28	745	1304	22	585	1024
M14	14.0	2.00	32	730	1460	28	635	1270	22	500	1000
M16	16.0	2.00	32	635	1270	28	555	1110	22	440	880
M18	18.0	2.50	32	565	1413	28	495	1238	22	390	975
M20	20.0	2.50	32	510	1275	28	445	1113	22	350	875
M22	22.0	2.50	32	465	1163	28	405	1013	22	320	800
M24	24.0	3.00	32	425	1275	28	370	1110	22	290	870
M27	27.0	3.00	32	375	1125	28	330	990	22	260	780
M30	30.0	3.50	32	340	1190	28	295	1033	22	235	823
M33	33.0	3.50	32	310	1085	28	270	945	22	210	735
M36	36.0	4.00	32	285	1140	28	250	1000	22	195	780
M39	39.0	4.00	32	260	1040	28	230	920	22	180	720
M42	42.0	4.50	32	245	1103	28	210	945	22	165	743
M12	12.0	1.75	20	530	928	16	425	744	10	265	464
M14	14.0	2.00	20	455	910	16	365	730	10	225	450
M16	16.0	2.00	20	400	800	16	320	640	10	200	400
M18	18.0	2.50	20	355	888	16	285	713	10	175	438
M20	20.0	2.50	20	320	800	16	255	638	10	160	400
M22	22.0	2.50	20	290	725	16	230	575	10	145	363
M24	24.0	3.00	20	265	795	16	210	630	10	135	405
M27	27.0	3.00	20	235	705	16	190	570	10	120	360
M30	30.0	3.50	20	210	735	16	170	595	10	105	368
M33	33.0	3.50	20	195	683	16	155	543	10	95	333
M36	36.0	4.00	20	175	700	16	140	560	10	90	360
M39	39.0	4.00	20	165	660	16	130	520	10	80	320
M42	42.0	4.50	20	150	675	16	120	540	10	75	338

Rm
850-1100

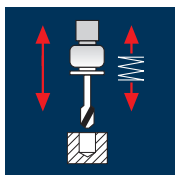


M

Rm
850-1100

www.fraisa.com

Application



Material

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

M	ø [mm]	P [mm]	V _c 1.0 x d			V _c 1.5 x d			V _c 2.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M 4	4.0	0.70	32	2545	1782	28	2230	1561	22	1750	1225
M 5	5.0	0.80	32	2035	1628	28	1785	1428	22	1400	1120
M 6	6.0	1.00	32	1700	1700	28	1485	1485	22	1165	1165
M 8	8.0	1.25	32	1275	1594	28	1115	1394	22	875	1094
M10	10.0	1.50	32	1020	1530	28	890	1335	22	700	1050
M12	12.0	1.75	32	850	1488	28	745	1304	22	585	1024
M14	14.0	2.00	32	730	1460	28	635	1270	22	500	1000
M16	16.0	2.00	32	635	1270	28	555	1110	22	440	880
M18	18.0	2.50	32	565	1413	28	495	1238	22	390	975
M20	20.0	2.50	32	510	1275	28	445	1113	22	350	875
M22	22.0	2.50	32	465	1163	28	405	1013	22	320	800
M24	24.0	3.00	32	425	1275	28	370	1110	22	290	870
M 4	4.0	0.70	20	1590	1113	16	1275	893	10	795	557
M 5	5.0	0.80	20	1275	1020	16	1020	816	10	635	508
M 6	6.0	1.00	20	1060	1060	16	850	850	10	530	530
M 8	8.0	1.25	20	795	994	16	635	794	10	400	500
M10	10.0	1.50	20	635	953	16	510	765	10	320	480
M12	12.0	1.75	20	530	928	16	425	744	10	265	464
M14	14.0	2.00	20	455	910	16	365	730	10	225	450
M16	16.0	2.00	20	400	800	16	320	640	10	200	400
M18	18.0	2.50	20	355	888	16	285	713	10	175	438
M20	20.0	2.50	20	320	800	16	255	638	10	160	400
M22	22.0	2.50	20	290	725	16	230	575	10	145	363
M24	24.0	3.00	20	265	795	16	210	630	10	135	405

Incool

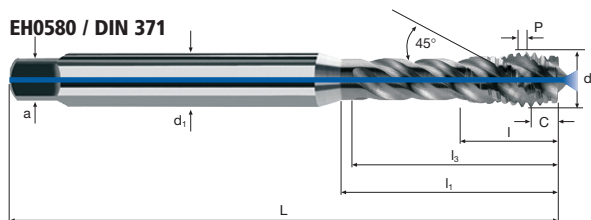
11

M

ISO 2
(6H)



**HSS
PM/F**



EH0581 / DIN 376

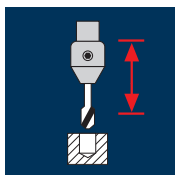


Rm
< 850

Rm
850-1100

[illegible]

Application



Material

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

M	ø [mm]	P [mm]	V _c n 1.0 x d [min ⁻¹]		V _c n 1.5 x d [min ⁻¹]		V _c n 2.0 x d [min ⁻¹]	
			V _c	n	V _c	n	V _c	n
M 3	3.0	0.50	34	3610	30	3185	24	2545
M 4	4.0	0.70	34	2705	30	2385	24	1910
M 5	5.0	0.80	34	2165	30	1910	24	1530
M 6	6.0	1.00	34	1805	30	1590	24	1275
M 8	8.0	1.25	34	1355	30	1195	24	955
M10	10.0	1.50	34	1080	30	955	24	765
M12	12.0	1.75	34	900	30	795	24	635
M14	14.0	2.00	34	775	30	680	24	545
M16	16.0	2.00	34	675	30	595	24	475
M18	18.0	2.50	34	600	30	530	24	425
M20	20.0	2.50	34	540	30	475	24	380
M22	22.0	2.50	34	490	30	435	24	345
M24	24.0	3.00	34	450	30	400	24	320
M 3	3.0	0.50	22	2335	18	1910	12	1275
M 4	4.0	0.70	22	1750	18	1430	12	955
M 5	5.0	0.80	22	1400	18	1145	12	765
M 6	6.0	1.00	22	1165	18	955	12	635
M 8	8.0	1.25	22	875	18	715	12	475
M10	10.0	1.50	22	700	18	575	12	380
M12	12.0	1.75	22	585	18	475	12	320
M14	14.0	2.00	22	500	18	410	12	275
M16	16.0	2.00	22	440	18	360	12	240
M18	18.0	2.50	22	390	18	320	12	210
M20	20.0	2.50	22	350	18	285	12	190
M22	22.0	2.50	22	320	18	260	12	175
M24	24.0	3.00	22	290	18	240	12	160

Taps x-tap-R

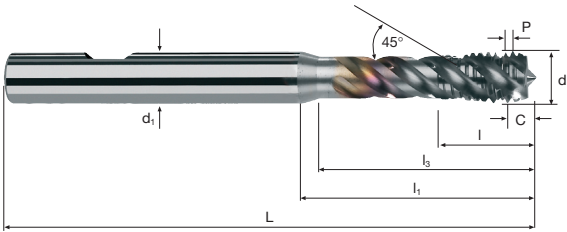


M

ISO 2
(6H)

HSS
PM/F

Form C



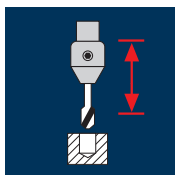
M

Rm
< 850

Rm
850-1100

										TiCN	
										EH0590	
Ø Code	d	P	L	l	l1	l3	d1 h6				
.044	M 3	0.50	63	5	—	16	6	3	2.50		●
.058	M 4	0.70	66	7	—	19	6	3	3.30		●
.084	M 5	0.80	70	8	—	23	6	3	4.20		●
.088	M 6	1.00	80	10	—	28	6	3	5.00		●
.160	M 8	1.25	90	13	35	33	8	3	6.80		●
.174	M10	1.50	100	15	39	37	10	4	8.50		●
.240	M12	1.75	110	18	45	43	12	4	10.20		●
.244	M14	2.00	110	20	46	44	16	4	12.00		●
.246	M16	2.00	110	20	50	48	16	4	14.00		●
.312	M18	2.50	125	25	60	58	16	4	15.50		●
.314	M20	2.50	140	25	64	62	16	4	17.50		●
.316	M22	2.50	140	25	64	62	20	5	19.50		●
.320	M24	3.00	160	30	74	72	20	5	21.00		●

Application



Material

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

Steel
850 - 1100 N/mm²

Steel
850 - 1100 N/mm²

M	ø [mm]	P [mm]	V _c n 1.0 x d [min ⁻¹]		V _c n 1.5 x d [min ⁻¹]		V _c n 2.0 x d [min ⁻¹]	
			V _c	n	V _c	n	V _c	n
M 4	4.0	0.70	28	2230	24	1910	18	1430
M 5	5.0	0.80	28	1785	24	1530	18	1145
M 6	6.0	1.00	28	1485	24	1275	18	955
M 8	8.0	1.25	28	1115	24	955	18	715
M10	10.0	1.50	28	890	24	765	18	575
M12	12.0	1.75	28	745	24	635	18	475
M14	14.0	2.00	28	635	24	545	18	410
M16	16.0	2.00	28	555	24	475	18	360
M18	18.0	2.50	28	495	24	425	18	320
M20	20.0	2.50	28	445	24	380	18	285
M22	22.0	2.50	28	405	24	345	18	260
M24	24.0	3.00	28	370	24	320	18	240
M 4	4.0	0.70	22	1750	18	1430	12	955
M 5	5.0	0.80	22	1400	18	1145	12	765
M 6	6.0	1.00	22	1165	18	955	12	635
M 8	8.0	1.25	22	875	18	715	12	475
M10	10.0	1.50	22	700	18	575	12	380
M12	12.0	1.75	22	585	18	475	12	320
M14	14.0	2.00	22	500	18	410	12	275
M16	16.0	2.00	22	440	18	360	12	240
M18	18.0	2.50	22	390	18	320	12	210
M20	20.0	2.50	22	350	18	285	12	190
M22	22.0	2.50	22	320	18	260	12	175
M24	24.0	3.00	22	290	18	240	12	160

Taps x-tap-R

Incool

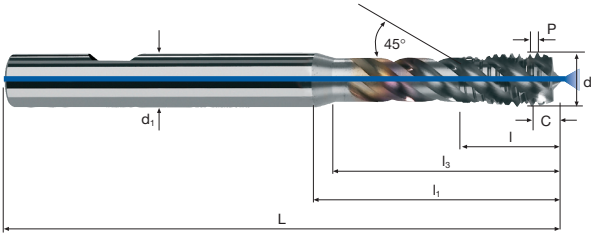


M

ISO 2
(6H)

HSS
PM/F

Form C



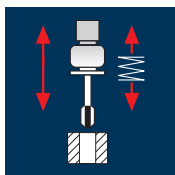
M

Rm
< 850

Rm
850-1100

										TiCN	
										EH0591	
Ø Code	d	P	L	l	l1	l3	d1 h6				
.058	M 4	0.70	66	7	—	19	6	3	3.30	●	
.084	M 5	0.80	70	8	—	23	6	3	4.20	●	
.088	M 6	1.00	80	10	—	28	6	3	5.00	●	
.160	M 8	1.25	90	13	35	33	8	3	6.80	●	
.174	M10	1.50	100	15	39	37	10	4	8.50	●	
.240	M12	1.75	110	18	45	43	12	4	10.20	●	
.244	M14	2.00	110	20	46	44	16	4	12.00	●	
.246	M16	2.00	110	20	50	48	16	4	14.00	●	
.312	M18	2.50	125	25	60	58	16	4	15.50	●	
.314	M20	2.50	140	25	64	62	16	4	17.50	●	
.316	M22	2.50	140	25	64	62	20	5	19.50	●	
.320	M24	3.00	160	30	74	72	20	5	21.00	●	

Application



Material

Steel
1100 - 1300 N/mm²



Steel
1100 - 1300 N/mm²



Steel
1300 - 1500 N/mm²



Steel
1300 - 1500 N/mm²



M	ø [mm]	P [mm]	V _c 1.0 x d			V _c 1.5 x d			V _c 2.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M 2	2.0	0.40	10	1590	636	8	1275	510	5	795	318
M 2.5	2.5	0.45	10	1275	574	8	1020	459	5	635	286
M 3	3.0	0.50	10	1060	530	8	850	425	5	530	265
M 4	4.0	0.70	10	795	557	8	635	445	5	400	280
M 5	5.0	0.80	10	635	508	8	510	408	5	320	256
M 6	6.0	1.00	10	530	530	8	425	425	5	265	265
M 8	8.0	1.25	10	400	500	8	320	400	5	200	250
M10	10.0	1.50	10	320	480	8	255	383	5	160	240
M12	12.0	1.75	10	265	464	8	210	368	5	135	236
M14	14.0	2.00	10	225	450	8	180	360	5	115	230
M16	16.0	2.00	10	200	400	8	160	320	5	100	200
M18	18.0	2.50	10	175	438	8	140	350	5	90	225
M20	20.0	2.50	10	160	400	8	125	313	5	80	200
M22	22.0	2.50	10	145	363	8	115	288	5	70	175
M24	24.0	3.00	10	135	405	8	105	315	5	65	195
M 2	2.0	0.40	6	955	382	4	635	254	3	475	190
M 2.5	2.5	0.45	6	765	344	4	510	230	3	380	171
M 3	3.0	0.50	6	635	318	4	425	213	3	320	160
M 4	4.0	0.70	6	475	333	4	320	224	3	240	168
M 5	5.0	0.80	6	380	304	4	255	204	3	190	152
M 6	6.0	1.00	6	320	320	4	210	210	3	160	160
M 8	8.0	1.25	6	240	300	4	160	200	3	120	150
M10	10.0	1.50	6	190	285	4	125	188	3	95	143
M12	12.0	1.75	6	160	280	4	105	184	3	80	140
M14	14.0	2.00	6	135	270	4	90	180	3	70	140
M16	16.0	2.00	6	120	240	4	80	160	3	60	120
M18	18.0	2.50	6	105	263	4	70	175	3	55	138
M20	20.0	2.50	6	95	238	4	65	163	3	50	125
M22	22.0	2.50	6	85	213	4	60	150	3	45	113
M24	24.0	3.00	6	80	240	4	55	165	3	40	120

Taps



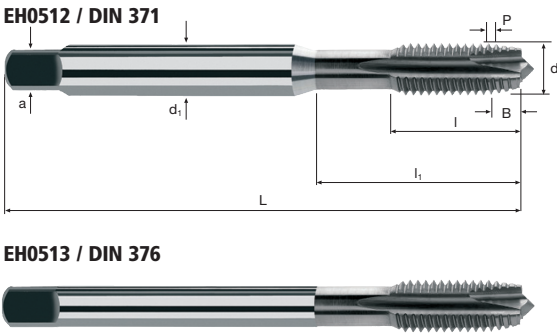
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

Form B



M

		Rm 1100-1300	Rm 1300-1500						
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Example: Order-N°.										TiCN	
Article-N°.										EH0512	
α-Code											
Ø Code	d	P	L	l	l1	d1	a				
.034	M 2	0.40	45	8	—	2.8	2.1	2	1.70 *		●
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	2.10		●
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	2.60 *		●
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	3.40		●
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	4.30		●
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	5.10		●
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	6.90		●
.174	M10	1.50	100	22	39.0	10.0	8.0	3	8.60		●

Example: Order-N°.										TiCN	
Article-N°.										EH0513	
α-Code											
Ø Code	d	P	L	l	l1	d1	a				
.240	M12	1.75	110	24	40.0	9.0	7.0	3	10.40		●
.244	M14	2.00	110	26	40.0	11.0	9.0	3	12.20		●
.246	M16	2.00	110	27	40.0	12.0	9.0	3	14.20		●
.312	M18	2.50	125	30	45.0	14.0	11.0	4	15.70		●
.314	M20	2.50	140	32	50.0	16.0	12.0	4	17.70		●
.316	M22	2.50	140	32	50.0	18.0	14.5	4	19.70		●
.320	M24	3.00	160	34	60.0	18.0	14.5	4	21.20		●
* The given dimension is out of norm											

Application



The diagram shows a mechanical assembly consisting of a top block, a middle block, a central shaft, and a bottom block. A coiled spring is positioned between the middle and bottom blocks. Red arrows indicate the direction of movement or force applied to the spring.



Material
Steel
1100 - 1300 N/mm²



Steel
1100 - 1300 N/mm²



Steel
1300 - 1500 N/mm²



Steel
1300 - 1500 N/mm²

[illegible]

Taps h-tap



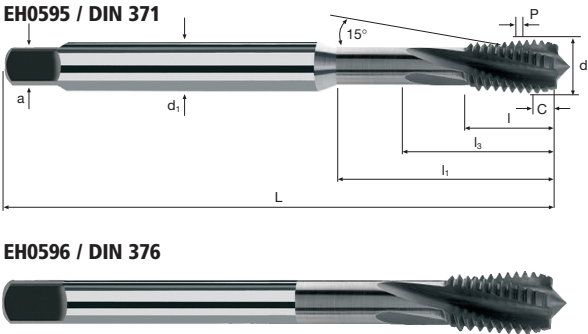
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

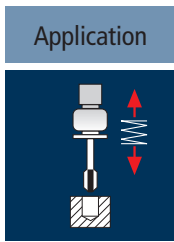
Form C



		Rm 1100-1300	Rm 1300-1500						
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Example: Order-N°.											TiCN	
Article-N°.											EH0595	
α-Code												
Ø Code	d	P	L	l	l1	l3	d1	a				
.044	M 3	0.50	56	5	18	16	3.5	2.7	3	2.60 *		●
.058	M 4	0.70	63	7	21	19	4.5	3.4	3	3.40		●
.084	M 5	0.80	70	8	25	23	6.0	4.9	3	4.30		●
.088	M 6	1.00	80	10	30	28	6.0	4.9	3	5.10		●
.160	M 8	1.25	90	13	35	33	8.0	6.2	3	6.90		●
.174	M10	1.50	100	15	39	37	10.0	8.0	4	8.60		●

Example: Order-N°.											TiCN	
Article-N°.											EH0596	
α-Code												
Ø Code	d	P	L	l	l1	l3	d1	a				
.240	M12	1.75	110	18	50	48	9.0	7.0	4	10.40		●
.244	M14	2.00	110	20	58	56	11.0	9.0	4	12.20		●
.246	M16	2.00	110	20	58	56	12.0	9.0	4	14.20		●
.312	M18	2.50	125	25	65	63	14.0	11.0	4	15.70		●
.314	M20	2.50	140	25	72	70	16.0	12.0	4	17.70		●
.316	M22	2.50	140	25	72	70	18.0	14.5	4	19.70		●
.320	M24	3.00	160	30	74	72	18.0	14.5	5	21.20		●
* The given dimension is out of norm												



Material

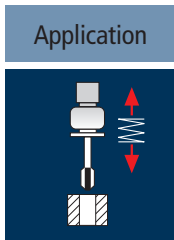
Hardened tool steel
48 - 52 HRC

Hardened tool steel
52 - 56 HRC

Hardened tool steel
56 - 60 HRC

Hardened tool steel
> 60 HRC

M	ø [mm]	P [mm]	V _c 1.5 x d			V _c 2.0 x d			V _c 3.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M 4	4.0	0.70	8	635	445	6	475	333	4	320	224
M 5	5.0	0.80	8	510	408	6	380	304	4	255	204
M 6	6.0	1.00	8	425	425	6	320	320	4	210	210
M 8	8.0	1.25	8	320	400	6	240	300	4	160	200
M10	10.0	1.50	8	255	383	6	190	285	4	125	188
M12	12.0	1.75	8	210	368	6	160	280	4	105	184
M14	14.0	2.00	8	180	360	6	135	270	4	90	180
M16	16.0	2.00	8	160	320	6	120	240	4	80	160
M 4	4.0	0.70	6	475	333	4	320	224	3	240	168
M 5	5.0	0.80	6	380	304	4	255	204	3	190	152
M 6	6.0	1.00	6	320	320	4	210	210	3	160	160
M 8	8.0	1.25	6	240	300	4	160	200	3	120	150
M10	10.0	1.50	6	190	285	4	125	188	3	95	143
M12	12.0	1.75	6	160	280	4	105	184	3	80	140
M14	14.0	2.00	6	135	270	4	90	180	3	70	140
M16	16.0	2.00	6	120	240	4	80	160	3	60	120
M 4	4.0	0.70	4	320	224	2	160	112			
M 5	5.0	0.80	4	255	204	2	125	100			
M 6	6.0	1.00	4	210	210	2	105	105			
M 8	8.0	1.25	4	160	200	2	80	100			
M10	10.0	1.50	4	125	188	2	65	98			
M12	12.0	1.75	4	105	184	2	55	96			
M14	14.0	2.00	4	90	180	2	45	90			
M16	16.0	2.00	4	80	160	2	40	80			
M 4	4.0	0.70	2	160	112	1.5	120	84			
M 5	5.0	0.80	2	125	100	1.5	95	76			
M 6	6.0	1.00	2	105	105	1.5	80	80			
M 8	8.0	1.25	2	80	100	1.5	60	75			
M10	10.0	1.50	2	65	98	1.5	50	75			
M12	12.0	1.75	2	55	96	1.5	40	70			
M14	14.0	2.00	2	45	90	1.5	35	70			
M16	16.0	2.00	2	40	80	1.5	30	60			



Material

Hardened tool steel
48 - 52 HRC

Hardened tool steel
52 - 56 HRC

Hardened tool steel
56 - 60 HRC

Hardened tool steel
> 60 HRC

M	ø [mm]	P [mm]	V _c 1.5 x d			V _c 2.0 x d			V _c 3.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M 4	4.0	0.70	8	635	445	6	475	333	4	320	224
M 5	5.0	0.80	8	510	408	6	380	304	4	255	204
M 6	6.0	1.00	8	425	425	6	320	320	4	210	210
M 8	8.0	1.25	8	320	400	6	240	300	4	160	200
M10	10.0	1.50	8	255	383	6	190	285	4	125	188
M12	12.0	1.75	8	210	368	6	160	280	4	105	184
M14	14.0	2.00	8	180	360	6	135	270	4	90	180
M16	16.0	2.00	8	160	320	6	120	240	4	80	160
M 4	4.0	0.70	6	475	333	4	320	224	3	240	168
M 5	5.0	0.80	6	380	304	4	255	204	3	190	152
M 6	6.0	1.00	6	320	320	4	210	210	3	160	160
M 8	8.0	1.25	6	240	300	4	160	200	3	120	150
M10	10.0	1.50	6	190	285	4	125	188	3	95	143
M12	12.0	1.75	6	160	280	4	105	184	3	80	140
M14	14.0	2.00	6	135	270	4	90	180	3	70	140
M16	16.0	2.00	6	120	240	4	80	160	3	60	120
M 4	4.0	0.70	4	320	224	2	160	112			
M 5	5.0	0.80	4	255	204	2	125	100			
M 6	6.0	1.00	4	210	210	2	105	105			
M 8	8.0	1.25	4	160	200	2	80	100			
M10	10.0	1.50	4	125	188	2	65	98			
M12	12.0	1.75	4	105	184	2	55	96			
M14	14.0	2.00	4	90	180	2	45	90			
M16	16.0	2.00	4	80	160	2	40	80			
M 4	4.0	0.70	2	160	112	1.5	120	84			
M 5	5.0	0.80	2	125	100	1.5	95	76			
M 6	6.0	1.00	2	105	105	1.5	80	80			
M 8	8.0	1.25	2	80	100	1.5	60	75			
M10	10.0	1.50	2	65	98	1.5	50	75			
M12	12.0	1.75	2	55	96	1.5	40	70			
M14	14.0	2.00	2	45	90	1.5	35	70			
M16	16.0	2.00	2	40	80	1.5	30	60			

Taps durotap H



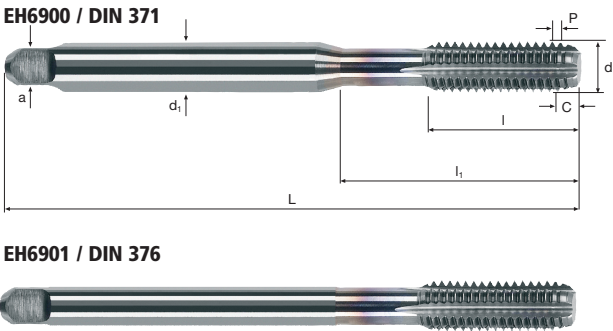
M

ISO 2
(6H)

HM
MG10

DIN
371/376

Form C



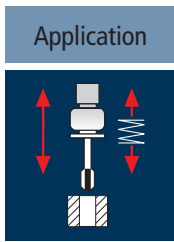
EH6901 / DIN 376



				HRC 48-56	HRC 56-60	HRC > 60			
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Example: Order-N°.										TiCN	
Article-N°.										EH6900	
α-Code											
Ø Code	d	P	L	l	l ₁	d ₁	a				
.058	M 4	0.70	63	13	21	4.5	3.4	4	3.40		●
.084	M 5	0.80	70	15	25	6.0	4.9	4	4.30		●
.088	M 6	1.00	80	17	30	6.0	4.9	4	5.10		●
.160	M 8	1.25	90	20	35	8.0	6.2	5	6.90		●
.174	M10	1.50	100	22	39	10.0	8.0	5	8.60		●

Example: Order-N°.										TiCN	
Article-N°.										EH6901	
α-Code											
Ø Code	d	P	L	l	l ₁	d ₁	a				
.240	M12	1.75	110	24	40	9.0	7.0	5	10.40		●
.244	M14	2.00	110	26	40	11.0	9.0	5	12.20		●
.246	M16	2.00	110	27	40	12.0	9.0	5	14.20		●



Material
Stainless steel ferritic/martensitic
Stainless steel ferritic/martensitic
Stainless steel [Cr-Ni/1.4301]
Stainless steel [Cr-Ni/1.4301]

M	ø [mm]	P [mm]	V_c 1.5 x d	n [min ⁻¹]	v_f [100%]	V_c 2.0 x d	n [min ⁻¹]	v_f [100%]	V_c 3.0 x d	n [min ⁻¹]	v_f [100%]
M 2	2.0	0.40	12	1910	764	10	1590	636	8	1275	510
M 2.5	2.5	0.45	12	1530	689	10	1275	574	8	1020	459
M 3	3.0	0.50	12	1275	638	10	1060	530	8	850	425
M 4	4.0	0.70	12	955	669	10	795	557	8	635	445
M 5	5.0	0.80	12	765	612	10	635	508	8	510	408
M 6	6.0	1.00	12	635	635	10	530	530	8	425	425
M 8	8.0	1.25	12	475	594	10	400	500	8	320	400
M10	10.0	1.50	12	380	570	10	320	480	8	255	383
M12	12.0	1.75	12	320	560	10	265	464	8	210	368
M14	14.0	2.00	12	275	550	10	225	450	8	180	360
M16	16.0	2.00	12	240	480	10	200	400	8	160	320
M18	18.0	2.50	12	210	525	10	175	438	8	140	350
M20	20.0	2.50	12	190	475	10	160	400	8	125	313
M22	22.0	2.50	12	175	438	10	145	363	8	115	288
M24	24.0	3.00	12	160	480	10	135	405	8	105	315
M 2	2.0	0.40	7	1115	446	5	795	318	4	635	254
M 2.5	2.5	0.45	7	890	401	5	635	286	4	510	230
M 3	3.0	0.50	7	745	373	5	530	265	4	425	213
M 4	4.0	0.70	7	555	389	5	400	280	4	320	224
M 5	5.0	0.80	7	445	356	5	320	256	4	255	204
M 6	6.0	1.00	7	370	370	5	265	265	4	210	210
M 8	8.0	1.25	7	280	350	5	200	250	4	160	200
M10	10.0	1.50	7	225	338	5	160	240	4	125	188
M12	12.0	1.75	7	185	324	5	135	236	4	105	184
M14	14.0	2.00	7	160	320	5	115	230	4	90	180
M16	16.0	2.00	7	140	280	5	100	200	4	80	160
M18	18.0	2.50	7	125	313	5	90	225	4	70	175
M20	20.0	2.50	7	110	275	5	80	200	4	65	163
M22	22.0	2.50	7	100	250	5	70	175	4	60	150
M24	24.0	3.00	7	95	285	5	65	195	4	55	165

Material
Stainless steel [Cr-Ni-Mo-.../1.4571]
Stainless steel [Cr-Ni-Mo-.../1.4571]
Heat resistant steel [17-4 PH]
Heat resistant steel [17-4 PH]

M	ø [mm]	P [mm]	V_c 1.5 x d	n [min ⁻¹]	v_f [100%]	V_c 2.0 x d	n [min ⁻¹]	v_f [100%]	V_c 3.0 x d	n [min ⁻¹]	v_f [100%]
M 2	2.0	0.40	8	1275	510	6	955	382	5	795	318
M 2.5	2.5	0.45	8	1020	459	6	765	344	5	635	286
M 3	3.0	0.50	8	850	425	6	635	318	5	530	265
M 4	4.0	0.70	8	635	445	6	475	333	5	400	280
M 5	5.0	0.80	8	510	408	6	380	304	5	320	256
M 6	6.0	1.00	8	425	425	6	320	320	5	265	265
M 8	8.0	1.25	8	320	400	6	240	300	5	200	250
M10	10.0	1.50	8	255	383	6	190	285	5	160	240
M12	12.0	1.75	8	210	368	6	160	280	5	135	236
M14	14.0	2.00	8	180	360	6	135	270	5	115	230
M16	16.0	2.00	8	160	320	6	120	240	5	100	200
M18	18.0	2.50	8	140	350	6	105	263	5	90	225
M20	20.0	2.50	8	125	313	6	95	238	5	80	200
M22	22.0	2.50	8	115	288	6	85	213	5	70	175
M24	24.0	3.00	8	105	315	6	80	240	5	65	195
M 2	2.0	0.40	5	795	318	4	635	254	3	475	190
M 2.5	2.5	0.45	5	635	286	4	510	230	3	380	171
M 3	3.0	0.50	5	530	265	4	425	213	3	320	160
M 4	4.0	0.70	5	400	280	4	320	224	3	240	168
M 5	5.0	0.80	5	320	256	4	255	204	3	190	152
M 6	6.0	1.00	5	265	265	4	210	210	3	160	160
M 8	8.0	1.25	5	200	250	4	160	200	3	120	150
M10	10.0	1.50	5	160	240	4	125	188	3	95	143
M12	12.0	1.75	5	135	236	4	105	184	3	80	140
M14	14.0	2.00	5	115	230	4	90	180	3	70	140
M16	16.0	2.00	5	100	200	4	80	160	3	60	120
M18	18.0	2.50	5	90	225	4	70	175	3	55	138
M20	20.0	2.50	5	80	200	4	65	163	3	50	125
M22	22.0	2.50	5	70	175	4	60	150	3	45	113
M24	24.0	3.00	5	65	195	4	55	165	3	40	120



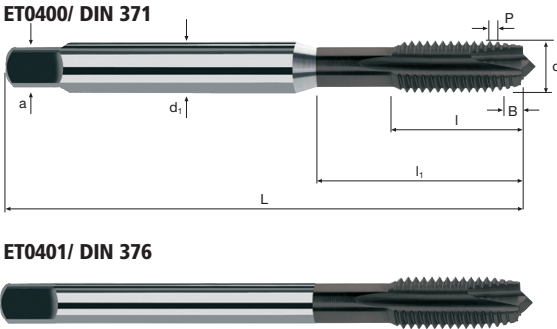
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

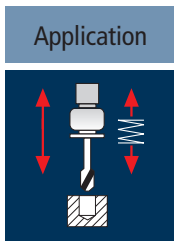
Form B



Inox
Stainless

											TRIBO
											ET0400
Example: Order-N°.	Article-N°.		ø-Code								
ø Code	d	P	L	l	l ₁	d ₁	a				
.034	M 2	0.40	45	8	—	2.8	2.1	2	1.70 *		●
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	2.10		●
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	2.60 *		●
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	3.40		●
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	4.30		●
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	5.10		●
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	6.90		●
.174	M10	1.50	100	22	39.0	10.0	8.0	3	8.60		●

											TRIBO
											ET0401
Example: Order-N°.	Article-N°.		ø-Code								
ø Code	d	P	L	l	l ₁	d ₁	a				
.240	M12	1.75	110	24	40.0	9.0	7.0	3	10.40		●
.244	M14	2.00	110	26	40.0	11.0	9.0	3	12.20		●
.246	M16	2.00	110	27	40.0	12.0	9.0	3	14.20		●
.312	M18	2.50	125	30	45.0	14.0	11.0	4	15.70		●
.314	M20	2.50	140	32	50.0	16.0	12.0	4	17.70		●
.316	M22	2.50	140	32	50.0	18.0	14.5	4	19.70		●
.320	M24	3.00	160	34	60.0	18.0	14.5	4	21.20		●
* The given dimension is out of norm											



Material
Stainless steel ferritic/martensitic
Stainless steel ferritic/martensitic
Stainless steel [Cr-Ni/1.4301]
Stainless steel [Cr-Ni/1.4301]

M	ø [mm]	P [mm]	v_c 1.0 x d	n [min ⁻¹]	v_f [100%]	v_c 1.5 x d	n [min ⁻¹]	v_f [100%]	v_c 2.0 x d	n [min ⁻¹]	v_f [100%]
M 2	2.0	0.40	10	1590	636	8	1275	510	6	955	382
M 2.5	2.5	0.45	10	1275	574	8	1020	459	6	765	344
M 3	3.0	0.50	10	1060	530	8	850	425	6	635	318
M 4	4.0	0.70	10	795	557	8	635	445	6	475	333
M 5	5.0	0.80	10	635	508	8	510	408	6	380	304
M 6	6.0	1.00	10	530	530	8	425	425	6	320	320
M 8	8.0	1.25	10	400	500	8	320	400	6	240	300
M10	10.0	1.50	10	320	480	8	255	383	6	190	285
M12	12.0	1.75	10	265	464	8	210	368	6	160	280
M14	14.0	2.00	10	225	450	8	180	360	6	135	270
M16	16.0	2.00	10	200	400	8	160	320	6	120	240
M18	18.0	2.50	10	175	438	8	140	350	6	105	263
M20	20.0	2.50	10	160	400	8	125	313	6	95	238
M22	22.0	2.50	10	145	363	8	115	288	6	85	213
M24	24.0	3.00	10	135	405	8	105	315	6	80	240
M 2	2.0	0.40	5	795	318	4	635	254	3	475	190
M 2.5	2.5	0.45	5	635	286	4	510	230	3	380	171
M 3	3.0	0.50	5	530	265	4	425	213	3	320	160
M 4	4.0	0.70	5	400	280	4	320	224	3	240	168
M 5	5.0	0.80	5	320	256	4	255	204	3	190	152
M 6	6.0	1.00	5	265	265	4	210	210	3	160	160
M 8	8.0	1.25	5	200	250	4	160	200	3	120	150
M10	10.0	1.50	5	160	240	4	125	188	3	95	143
M12	12.0	1.75	5	135	236	4	105	184	3	80	140
M14	14.0	2.00	5	115	230	4	90	180	3	70	140
M16	16.0	2.00	5	100	200	4	80	160	3	60	120
M18	18.0	2.50	5	90	225	4	70	175	3	55	138
M20	20.0	2.50	5	80	200	4	65	163	3	50	125
M22	22.0	2.50	5	70	175	4	60	150	3	45	113
M24	24.0	3.00	5	65	195	4	55	165	3	40	120

Material
Stainless steel [Cr-Ni-Mo-.../1.4571]
Stainless steel [Cr-Ni-Mo-.../1.4571]
Heat resistant steel [17-4 PH]
Heat resistant steel [17-4 PH]

M	ø [mm]	P [mm]	v_c 1.0 x d	n [min ⁻¹]	v_f [100%]	v_c 1.5 x d	n [min ⁻¹]	v_f [100%]	v_c 2.0 x d	n [min ⁻¹]	v_f [100%]
M 2	2.0	0.40	6	955	382	5	795	318	4	635	254
M 2.5	2.5	0.45	6	765	344	5	635	286	4	510	230
M 3	3.0	0.50	6	635	318	5	530	265	4	425	213
M 4	4.0	0.70	6	475	333	5	400	280	4	320	224
M 5	5.0	0.80	6	380	304	5	320	256	4	255	204
M 6	6.0	1.00	6	320	320	5	265	265	4	210	210
M 8	8.0	1.25	6	240	300	5	200	250	4	160	200
M10	10.0	1.50	6	190	285	5	160	240	4	125	188
M12	12.0	1.75	6	160	280	5	135	236	4	105	184
M14	14.0	2.00	6	135	270	5	115	230	4	90	180
M16	16.0	2.00	6	120	240	5	100	200	4	80	160
M18	18.0	2.50	6	105	263	5	90	225	4	70	175
M20	20.0	2.50	6	95	238	5	80	200	4	65	163
M22	22.0	2.50	6	85	213	5	70	175	4	60	150
M24	24.0	3.00	6	80	240	5	65	195	4	55	165
M 2	2.0	0.40	4	635	254	3	475	190			
M 2.5	2.5	0.45	4	510	230	3	380	171			
M 3	3.0	0.50	4	425	213	3	320	160			
M 4	4.0	0.70	4	320	224	3	240	168			
M 5	5.0	0.80	4	255	204	3	190	152			
M 6	6.0	1.00	4	210	210	3	160	160			
M 8	8.0	1.25	4	160	200	3	120	150			
M10	10.0	1.50	4	125	188	3	95	143			
M12	12.0	1.75	4	105	184	3	80	140			
M14	14.0	2.00	4	90	180	3	70	140			
M16	16.0	2.00	4	80	160	3	60	120			
M18	18.0	2.50	4	70	175	3	55	138			
M20	20.0	2.50	4	65	163	3	50	125			
M22	22.0	2.50	4	60	150	3	45	113			
M24	24.0	3.00	4	55	165	3	40	120			

Taps x-tap



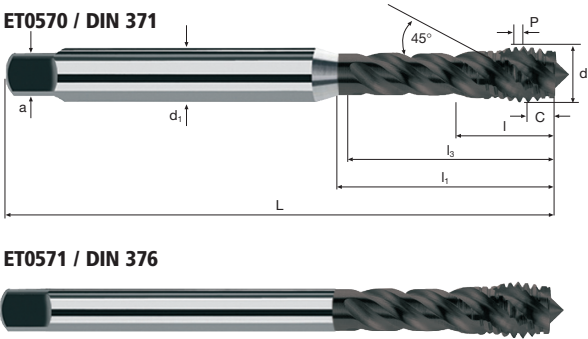
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

Form C



ET0571 / DIN 376



Inox
Stainless

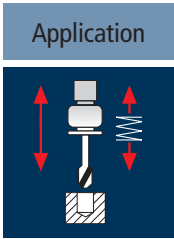
											TRIBO
											ET0570
Example: Order-N°.	Article-N°.		α-Code								
∅ Code	d	P	L	l	l ₁	l ₃	d ₁	a			
.034	M 2	0.40	45	8	—	10.5	2.8	2.1	3	1.70 *	●
.040	M 2.5	0.45	50	9	—	13.0	2.8	2.1	3	2.10	●
.044	M 3	0.50	56	5	—	16.0	3.5	2.7	3	2.60 *	●
.058	M 4	0.70	63	7	—	19.0	4.5	3.4	3	3.40	●
.084	M 5	0.80	70	8	—	23.0	6.0	4.9	3	4.30	●
.088	M 6	1.00	80	10	—	28.0	6.0	4.9	3	5.10	●
.160	M 8	1.25	90	13	35.0	33.0	8.0	6.2	3	6.90	●
.174	M10	1.50	100	15	39.0	37.0	10.0	8.0	4	8.60	●

											TRIBO
											ET0571
Example: Order-N°.	Article-N°.		α-Code								
∅ Code	d	P	L	l	l ₁	l ₃	d ₁	a			
.240	M12	1.75	110	18	50.0	48.0	9.0	7.0	4	10.40	●
.244	M14	2.00	110	20	58.0	56.0	11.0	9.0	4	12.20	●
.246	M16	2.00	110	20	58.0	56.0	12.0	9.0	4	14.20	●
.312	M18	2.50	125	25	65.0	63.0	14.0	11.0	4	15.70	●
.314	M20	2.50	140	25	72.0	70.0	16.0	12.0	4	17.70	●
.316	M22	2.50	140	25	72.0	70.0	18.0	14.5	5	19.70	●
.320	M24	3.00	160	30	74.0	72.0	18.0	14.5	5	21.20	●
* The given dimension is out of norm											

Application



The diagram shows a mechanical assembly. A central vertical shaft passes through a block at the bottom. A piston is mounted on the shaft, and a spring is attached to the top of the piston. Red arrows indicate the direction of movement: a double-headed arrow on the left and a single-headed arrow pointing up on the right, suggesting the spring's function in the assembly.



Material

**Stainless steel
ferritic/martensitic**

Material

**Stainless steel
ferritic/martensitic**

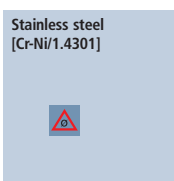




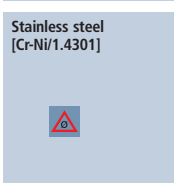
**Stainless steel
ferrite/martensitic**



Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]

[illegible]

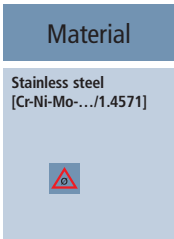
Material

Stainless steel
[Cr-Ni-Mo-.../1.4571]

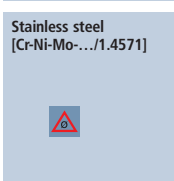
Material

Stainless steel
[Cr-Ni-Mo-.../1.4571]

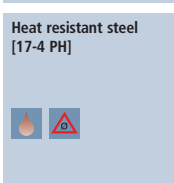




Stainless steel
[Cr-Ni-Mo-.../1.4571]

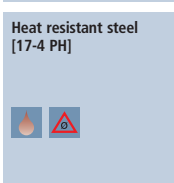


Heat resistant steel
[17-4 PH]



Heat resistant steel
[17-4 PH]

[illegible]

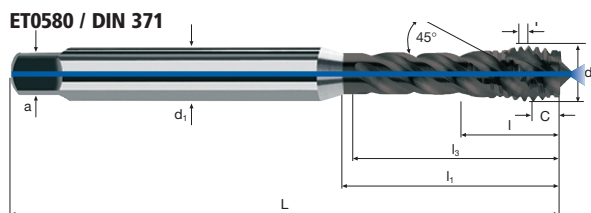
Incool



ISO 2
(6H)



**HSS
PM/F**



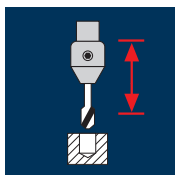
ET0581 / DIN 376



Inox
Stainless

[illegible]

Application



Material

Stainless steel
ferritic/martensitic



Stainless steel
ferritic/martensitic



Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]



Material

Stainless steel
[Cr-Ni-Mo-.../1.4571]



Stainless steel
[Cr-Ni-Mo-.../1.4571]



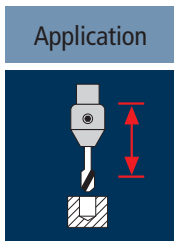
Heat resistant steel
[17-4 PH]



Heat resistant steel
[17-4 PH]



M	ø [mm]	P [mm]	V _c 1.0 x d	n [min ⁻¹]	V _c 1.5 x d	n [min ⁻¹]	V _c 2.0 x d	n [min ⁻¹]
M 3	3.0	0.50	12	1275	10	1060	8	850
M 4	4.0	0.70	12	955	10	795	8	635
M 5	5.0	0.80	12	765	10	635	8	510
M 6	6.0	1.00	12	635	10	530	8	425
M 8	8.0	1.25	12	475	10	400	8	320
M10	10.0	1.50	12	380	10	320	8	255
M12	12.0	1.75	12	320	10	265	8	210
M14	14.0	2.00	12	275	10	225	8	180
M16	16.0	2.00	12	240	10	200	8	160
M18	18.0	2.50	12	210	10	175	8	140
M20	20.0	2.50	12	190	10	160	8	125
M22	22.0	2.50	12	175	10	145	8	115
M24	24.0	3.00	12	160	10	135	8	105
M 3	3.0	0.50	7	745	5	530	4	425
M 4	4.0	0.70	7	555	5	400	4	320
M 5	5.0	0.80	7	445	5	320	4	255
M 6	6.0	1.00	7	370	5	265	4	210
M 8	8.0	1.25	7	280	5	200	4	160
M10	10.0	1.50	7	225	5	160	4	125
M12	12.0	1.75	7	185	5	135	4	105
M14	14.0	2.00	7	160	5	115	4	90
M16	16.0	2.00	7	140	5	100	4	80
M18	18.0	2.50	7	125	5	90	4	70
M20	20.0	2.50	7	110	5	80	4	65
M22	22.0	2.50	7	100	5	70	4	60
M24	24.0	3.00	7	95	5	65	4	55
M 3	3.0	0.50	8	850	6	635	5	530
M 4	4.0	0.70	8	635	6	475	5	400
M 5	5.0	0.80	8	510	6	380	5	320
M 6	6.0	1.00	8	425	6	320	5	265
M 8	8.0	1.25	8	320	6	240	5	200
M10	10.0	1.50	8	255	6	190	5	160
M12	12.0	1.75	8	210	6	160	5	135
M14	14.0	2.00	8	180	6	135	5	115
M16	16.0	2.00	8	160	6	120	5	100
M18	18.0	2.50	8	140	6	105	5	90
M20	20.0	2.50	8	125	6	95	5	80
M22	22.0	2.50	8	115	6	85	5	70
M24	24.0	3.00	8	105	6	80	5	65
M 3	3.0	0.50	5	530	4	425		
M 4	4.0	0.70	5	400	4	320		
M 5	5.0	0.80	5	320	4	255		
M 6	6.0	1.00	5	265	4	210		
M 8	8.0	1.25	5	200	4	160		
M10	10.0	1.50	5	160	4	125		
M12	12.0	1.75	5	135	4	105		
M14	14.0	2.00	5	115	4	90		
M16	16.0	2.00	5	100	4	80		
M18	18.0	2.50	5	90	4	70		
M20	20.0	2.50	5	80	4	65		
M22	22.0	2.50	5	70	4	60		
M24	24.0	3.00	5	65	4	55		



Material

Stainless steel
ferritic/martensitic

Stainless steel
ferritic/martensitic

Stainless steel
[Cr-Ni/1.4301]

Stainless steel
[Cr-Ni/1.4301]

M	ø [mm]	P [mm]	V _c 1.0 x d	n [min ⁻¹]	V _c 1.5 x d	n [min ⁻¹]	V _c 2.0 x d	n [min ⁻¹]
M 4	4.0	0.70	12	955	10	795	8	635
M 5	5.0	0.80	12	765	10	635	8	510
M 6	6.0	1.00	12	635	10	530	8	425
M 8	8.0	1.25	12	475	10	400	8	320
M10	10.0	1.50	12	380	10	320	8	255
M12	12.0	1.75	12	320	10	265	8	210
M14	14.0	2.00	12	275	10	225	8	180
M16	16.0	2.00	12	240	10	200	8	160
M18	18.0	2.50	12	210	10	175	8	140
M20	20.0	2.50	12	190	10	160	8	125
M22	22.0	2.50	12	175	10	145	8	115
M24	24.0	3.00	12	160	10	135	8	105
M 4	4.0	0.70	7	555	5	400	4	320
M 5	5.0	0.80	7	445	5	320	4	255
M 6	6.0	1.00	7	370	5	265	4	210
M 8	8.0	1.25	7	280	5	200	4	160
M10	10.0	1.50	7	225	5	160	4	125
M12	12.0	1.75	7	185	5	135	4	105
M14	14.0	2.00	7	160	5	115	4	90
M16	16.0	2.00	7	140	5	100	4	80
M18	18.0	2.50	7	125	5	90	4	70
M20	20.0	2.50	7	110	5	80	4	65
M22	22.0	2.50	7	100	5	70	4	60
M24	24.0	3.00	7	95	5	65	4	55

Material

Stainless steel
[Cr-Ni-Mo-.../1.4571]

Stainless steel
[Cr-Ni-Mo-.../1.4571]

Heat resistant steel
[17-4 PH]

Heat resistant steel
[17-4 PH]

M	ø [mm]	P [mm]	V _c 1.0 x d	n [min ⁻¹]	V _c 1.5 x d	n [min ⁻¹]	V _c 2.0 x d	n [min ⁻¹]
M 4	4.0	0.70	8	635	6	475	5	400
M 5	5.0	0.80	8	510	6	380	5	320
M 6	6.0	1.00	8	425	6	320	5	265
M 8	8.0	1.25	8	320	6	240	5	200
M10	10.0	1.50	8	255	6	190	5	160
M12	12.0	1.75	8	210	6	160	5	135
M14	14.0	2.00	8	180	6	135	5	115
M16	16.0	2.00	8	160	6	120	5	100
M18	18.0	2.50	8	140	6	105	5	90
M20	20.0	2.50	8	125	6	95	5	80
M22	22.0	2.50	8	115	6	85	5	70
M24	24.0	3.00	8	105	6	80	5	65
M 4	4.0	0.70	5	400	4	320		
M 5	5.0	0.80	5	320	4	255		
M 6	6.0	1.00	5	265	4	210		
M 8	8.0	1.25	5	200	4	160		
M10	10.0	1.50	5	160	4	125		
M12	12.0	1.75	5	135	4	105		
M14	14.0	2.00	5	115	4	90		
M16	16.0	2.00	5	100	4	80		
M18	18.0	2.50	5	90	4	70		
M20	20.0	2.50	5	80	4	65		
M22	22.0	2.50	5	70	4	60		
M24	24.0	3.00	5	65	4	55		

Incool

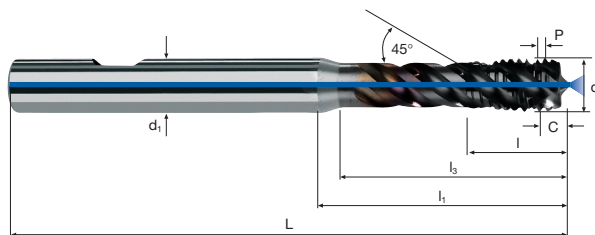


M

ISO 2
(6H)



**HSS
PM/F**



M

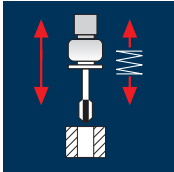
Inox
Stainless

www.fraisa.com

Application



The diagram shows a mechanical assembly. At the bottom is a hatched rectangular base. Above it is a piston-like component with a rounded top and a narrower stem. A coiled spring is positioned to the right of the piston, with red arrows pointing up and down, indicating its function. To the left of the piston, there are two more red arrows pointing up and down, indicating vertical movement or displacement.



Material
Cast iron GG

Cast iron
GGG

[illegible]

Material
Cast iron GG

Cast iron
GGG

Cast iron
GGG

[illegible]

Taps c-tap



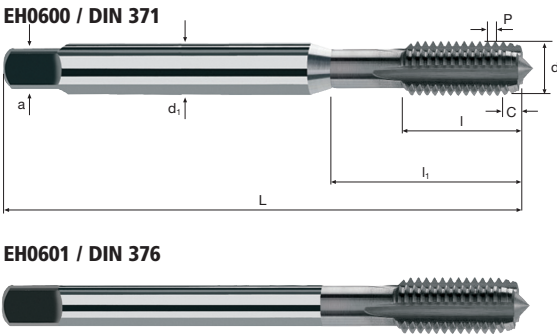
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

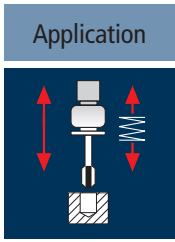
Form C



GG(G)

Example: Order-N°.										TiCN	
Article-N°.										EH0600	
α-Code											
Ø Code	d	P	L	I	l ₁	d ₁	a				
.034	M 2	0.40	45	8	—	2.8	2.1	3	1.60		●
.040	M 2.5	0.45	50	9	—	2.8	2.1	3	2.05		●
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	2.50		●
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	3.30		●
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	4.20		●
.088	M 6	1.00	80	17	30.0	6.0	4.9	4	5.00		●
.160	M 8	1.25	90	20	35.0	8.0	6.2	4	6.80		●
.174	M10	1.50	100	22	39.0	10.0	8.0	4	8.50		●

Example: Order-N°.										TiCN	
Article-N°.										EH0601	
α-Code											
Ø Code	d	P	L	I	l ₁	d ₁	a				
.240	M12	1.75	110	24	40.0	9.0	7.0	4	10.20		●
.244	M14	2.00	110	26	40.0	11.0	9.0	4	12.00		●
.246	M16	2.00	110	27	40.0	12.0	9.0	4	14.00		●
.312	M18	2.50	125	30	45.0	14.0	11.0	4	15.50		●
.314	M20	2.50	140	32	50.0	16.0	12.0	4	17.50		●
.316	M22	2.50	140	32	50.0	18.0	14.5	5	19.50		●
.320	M24	3.00	160	34	60.0	18.0	14.5	5	21.00		●



Application	Material	M	ø	P	V _c	n	v _f	V _c	n	v _f	V _c	n	v _f
			[mm]	[mm]	1.0 x d	[min ⁻¹]	[100%]	1.5 x d	[min ⁻¹]	[100%]	2.0 x d	[min ⁻¹]	[100%]
Cast iron GG		M 4	4.0	0.70	28	2230	1561	24	1910	1337	20	1590	1113
		M 5	5.0	0.80	28	1785	1428	24	1530	1224	20	1275	1020
		M 6	6.0	1.00	28	1485	1485	24	1275	1275	20	1060	1060
		M 8	8.0	1.25	28	1115	1394	24	955	1194	20	795	994
		M10	10.0	1.50	28	890	1335	24	765	1148	20	635	953
		M12	12.0	1.75	28	745	1304	24	635	1111	20	530	928
		M14	14.0	2.00	28	635	1270	24	545	1090	20	455	910
		M16	16.0	2.00	28	555	1110	24	475	950	20	400	800
		M18	18.0	2.50	28	495	1238	24	425	1063	20	355	888
		M20	20.0	2.50	28	445	1113	24	380	950	20	320	800
Cast iron GG		M22	22.0	2.50	28	405	1013	24	345	863	20	290	725
		M24	24.0	3.00	28	370	1110	24	320	960	20	265	795
Cast iron GGG		M 4	4.0	0.40	20	1590	636	18	1430	572	15	1195	478
		M 5	5.0	0.45	20	1275	574	18	1145	515	15	955	430
		M 6	6.0	0.50	20	1060	530	18	955	478	15	795	398
		M 8	8.0	0.70	20	795	557	18	715	500	15	595	417
		M10	10.0	0.80	20	635	508	18	575	460	15	475	380
		M12	12.0	1.00	20	530	530	18	475	475	15	400	400
		M14	14.0	1.25	20	455	569	18	410	513	15	340	425
		M16	16.0	1.50	20	400	600	18	360	540	15	300	450
		M18	18.0	1.75	20	355	621	18	320	560	15	265	464
		M20	20.0	2.00	20	320	640	18	285	570	15	240	480
Cast iron GGG		M22	22.0	2.00	20	290	580	18	260	520	15	215	430
		M24	24.0	2.50	20	265	663	18	240	600	15	200	500

Taps c-tap

Incool



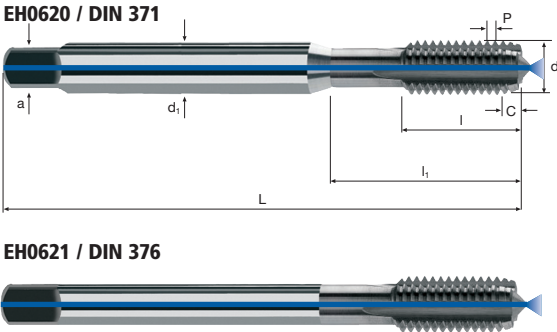
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

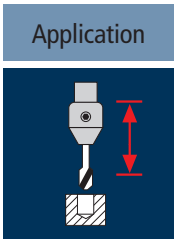
Form C



GG(G)

Example: Order-N°.										TiCN	
Article-N°.										EH0620	
Ø Code	d	P	L	l	l ₁	d ₁	a				
.058	M 4	0.70	63	13	21	4.5	3.4	3	3.30		●
.084	M 5	0.80	70	15	25	6.0	4.9	3	4.20		●
.088	M 6	1.00	80	17	30	6.0	4.9	4	5.00		●
.160	M 8	1.25	90	20	35	8.0	6.2	4	6.80		●
.174	M10	1.50	100	22	39	10.0	8.0	4	8.50		●

Example: Order-N°.										TiCN	
Article-N°.										EH0621	
Ø Code	d	P	L	l	l ₁	d ₁	a				
.240	M12	1.75	110	24	40	9.0	7.0	4	10.20		●
.244	M14	2.00	110	26	40	11.0	9.0	4	12.00		●
.246	M16	2.00	110	27	40	12.0	9.0	4	14.00		●
.312	M18	2.50	125	30	45	14.0	11.0	4	15.50		●
.314	M20	2.50	140	32	50	16.0	12.0	4	17.50		●
.316	M22	2.50	140	32	50	18.0	14.5	5	19.50		●
.320	M24	3.00	160	34	60	18.0	14.5	5	21.00		●



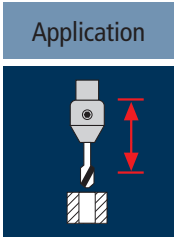
Material

Cast iron
GG

M	ø [mm]	P [mm]	V_c $1.0 \times d$	n [min ⁻¹]	V_c $1.5 \times d$	n [min ⁻¹]	V_c $2.0 \times d$	n [min ⁻¹]
M 3	3.0	0.50	80	8490	70	7425	50	5305
M 4	4.0	0.70	80	6365	70	5570	50	3980
M 5	5.0	0.80	80	5095	70	4455	50	3185
M 6	6.0	1.00	80	4245	70	3715	50	2655
M 8	8.0	1.25	80	3185	70	2785	50	1990
M10	10.0	1.50	80	2545	70	2230	50	1590
M12	12.0	1.75	80	2120	70	1855	50	1325

Cast iron
GGG

M 3	3.0	0.50	60	6365	40	4245	30	3185
M 4	4.0	0.70	60	4775	40	3185	30	2385
M 5	5.0	0.80	60	3820	40	2545	30	1910
M 6	6.0	1.00	60	3185	40	2120	30	1590
M 8	8.0	1.25	60	2385	40	1590	30	1195
M10	10.0	1.50	60	1910	40	1275	30	955
M12	12.0	1.75	60	1590	40	1060	30	795



Material

Cast iron
GG

M	ø [mm]	P [mm]	V_c $1.5 \times d$	n [min ⁻¹]	V_c $2.0 \times d$	n [min ⁻¹]	V_c $3.0 \times d$	n [min ⁻¹]
M 3	3.0	0.50	80	8490	60	6365	50	5305
M 4	4.0	0.70	80	6365	60	4775	50	3980
M 5	5.0	0.80	80	5095	60	3820	50	3185
M 6	6.0	1.00	80	4245	60	3185	50	2655
M 8	8.0	1.25	80	3185	60	2385	50	1990
M10	10.0	1.50	80	2545	60	1910	50	1590
M12	12.0	1.75	80	2120	60	1590	50	1325

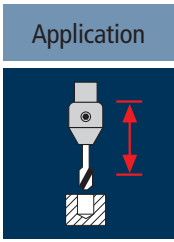
Cast iron
GGG

M 3	3.0	0.50	60	6365	50	5305	40	4245
M 4	4.0	0.70	60	4775	50	3980	40	3185
M 5	5.0	0.80	60	3820	50	3185	40	2545
M 6	6.0	1.00	60	3185	50	2655	40	2120
M 8	8.0	1.25	60	2385	50	1990	40	1590
M10	10.0	1.50	60	1910	50	1590	40	1275
M12	12.0	1.75	60	1590	50	1325	40	1060

Diagram illustrating a periodic waveform (sawtooth) with period X and peak value P . The period is labeled $X \cdot P$.



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Material		M	ø [mm]	P [mm]	V_c 1.0 x d	n [min ⁻¹]	V_c 1.5 x d	n [min ⁻¹]	V_c 2.0 x d	n [min ⁻¹]
Cast iron GG		M 6	6.0	1.00	80	4245	70	3715	50	2655
		M 8	8.0	1.25	80	3185	70	2785	50	1990
		M10	10.0	1.50	80	2545	70	2230	50	1590
		M12	12.0	1.75	80	2120	70	1855	50	1325
Cast iron GGG		M 6	6.0	1.00	60	3185	40	2120	30	1590
		M 8	8.0	1.25	60	2385	40	1590	30	1195
		M10	10.0	1.50	60	1910	40	1275	30	955
		M12	12.0	1.75	60	1590	40	1060	30	795

Incool



M

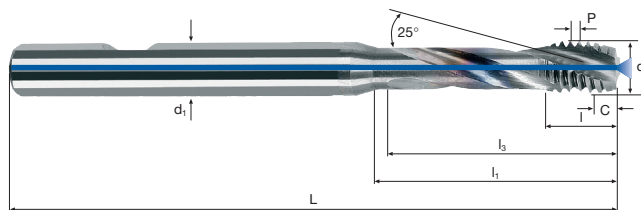
ISO 2
(6H)



**HM
MG10**



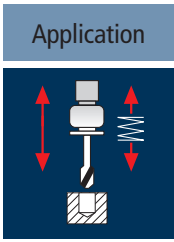
**DIN
6535
HB**



M

GG(G)

[illegible]



Application		Material		M		ø	P	V _c		n	V _c		n	V _c		n
						[mm]	[mm]	1.0 x d		[min ⁻¹]	1.5 x d		[min ⁻¹]	2.0 x d		[min ⁻¹]
Cast iron GG				M 3	3.0	0.50	80	8490			70	7425		50	5305	
				M 4	4.0	0.70	80	6365			70	5570		50	3980	
				M 5	5.0	0.80	80	5095			70	4455		50	3185	
				M 6	6.0	1.00	80	4245			70	3715		50	2655	
				M 8	8.0	1.25	80	3185			70	2785		50	1990	
				M10	10.0	1.50	80	2545			70	2230		50	1590	
				M12	12.0	1.75	80	2120			70	1855		50	1325	
Cast iron GGG				M 3	3.0	0.50	60	6365			40	4245		30	3185	
				M 4	4.0	0.70	60	4775			40	3185		30	2385	
				M 5	5.0	0.80	60	3820			40	2545		30	1910	
				M 6	6.0	1.00	60	3185			40	2120		30	1590	
				M 8	8.0	1.25	60	2385			40	1590		30	1195	
				M10	10.0	1.50	60	1910			40	1275		30	955	
				M12	12.0	1.75	60	1590			40	1060		30	795	

Taps durotap GG

Incool

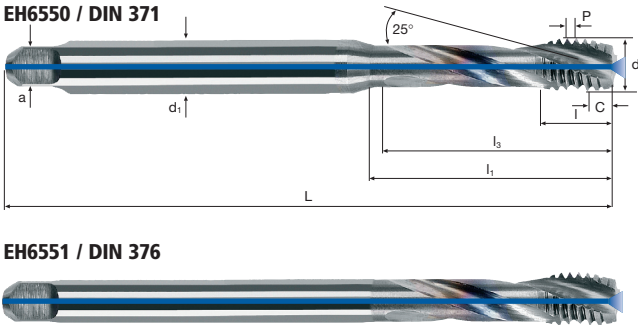


M

ISO 2
(6H)

HM
MG10

X - P
Form C



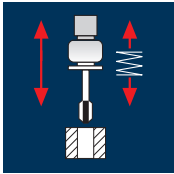
GG(G)

Example: Order-N°.											TiCN	
Article-N°.											EH6550	
α-Code												
Ø Code	d	P	L	l	l ₁	l ₂	d ₁	a				
.044 *	M 3	0.50	56	5	18	16	3.5	2.7	3	2.50		●
.058 *	M 4	0.70	63	7	21	19	4.5	3.4	3	3.30		●
.084 *	M 5	0.80	70	8	25	23	6.0	4.9	3	4.20		●
.088	M 6	1.00	80	10	30	28	6.0	4.9	3	5.00		●
.160	M 8	1.25	90	13	35	33	8.0	6.2	3	6.80		●
.174	M10	1.50	100	15	39	37	10.0	8.0	3	8.50		●

Example: Order-N°.											TiCN	
Article-N°.											EH6551	
α-Code												
Ø Code	d	P	L	l	l ₁	l ₂	d ₁	a				
.240	M12	1.75	110	18	50	48	9.0	7.0	3	10.20		●
* without internal cooling												

Application

The diagram illustrates a mechanical system. A mass, represented by a grey rectangle, is connected to a fixed base (hatched rectangle) via a spring and a damper in parallel. The spring is shown as a coiled line, and the damper is shown as a piston in a fluid-filled cylinder. Red arrows indicate the displacement of the mass from its equilibrium position.



Material
Unalloyed aluminium

Unalloyed aluminium

**Wrought aluminium alloys Si < 6%
not hardened**

[illegible]

Material

Wrought aluminium alloys Si < 6% hardened

Wrought aluminium alloys Si < 6% hardened

Unalloyed copper

Unalloyed copper

[illegible]

Taps



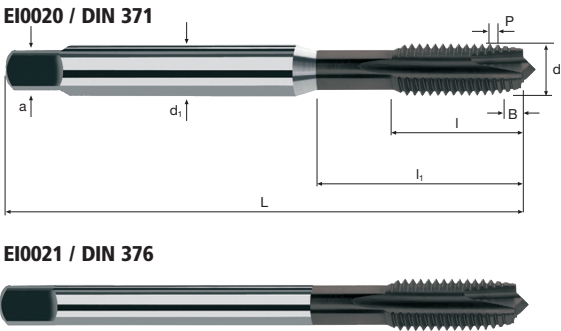
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

Form B



AI
Aluminium
> 99%

AI
Aluminium
Alloy

AI
Aluminium
Cast

Cu
Copper

Plastic
Thermoplast

										INTEGRAL	
Example: Order-N°.										EI0020	
Article-N°											
α-Code											
Ø Code	d	P	L	l	l ₁	d ₁	a				
.034	M 2	0.40	45	8	—	2.8	2.1	2	1.60		●
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	2.05		●
.044	M 3	0.50	56	12	18.0	3.5	2.7	2	2.50		●
.058	M 4	0.70	63	13	21.0	4.5	3.4	2	3.30		●
.084	M 5	0.80	70	15	25.0	6.0	4.9	2	4.20		●
.088	M 6	1.00	80	17	30.0	6.0	4.9	2	5.00		●
.160	M 8	1.25	90	20	35.0	8.0	6.2	2	6.80		●
.174	M10	1.50	100	22	39.0	10.0	8.0	2	8.50		●

										INTEGRAL	
Example: Order-N°.										EI0021	
Article-N°											
α-Code											
Ø Code	d	P	L	l	l ₁	d ₁	a				
.240	M12	1.75	110	24	40.0	9.0	7.0	3	10.20		●
.244	M14	2.00	110	26	40.0	11.0	9.0	3	12.00		●
.246	M16	2.00	110	27	40.0	12.0	9.0	3	14.00		●
.312	M18	2.50	125	30	45.0	14.0	11.0	3	15.50		●
.314	M20	2.50	140	32	50.0	16.0	12.0	3	17.50		●
.316	M22	2.50	140	32	50.0	18.0	14.5	3	19.50		●
.320	M24	3.00	160	34	60.0	18.0	14.5	3	21.00		●

Taps



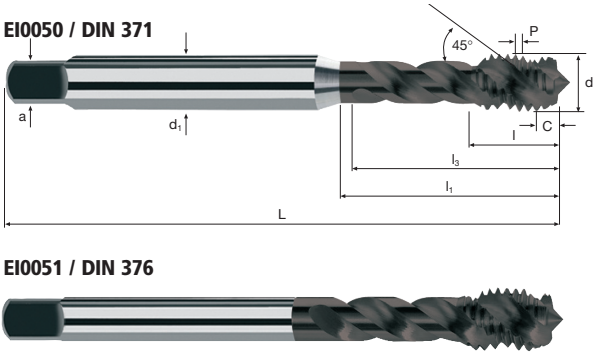
M

ISO 2
(6H)

HSS
PM/F

DIN
371/376

Form C



EI0051 / DIN 376



AI
Aluminium
> 99%

AI
Aluminium
Alloy

AI
Aluminium
Cast

Cu
Copper

Plastic
Thermoplast

											INTEGRAL
Example: Order-N°.											EI0050
Article-N°.											
α-Code											
Ø Code	d	P	L	l	l1	l3	d1	a			
.034	M 2	0.40	45	8	—	10.5	2.8	2.1	3	1.60	●
.040	M 2.5	0.45	50	9	—	13.0	2.8	2.1	3	2.05	●
.044	M 3	0.50	56	5	18.0	16.0	3.5	2.7	3	2.50	●
.058	M 4	0.70	63	7	21.0	19.0	4.5	3.4	3	3.30	●
.084	M 5	0.80	70	8	25.0	23.0	6.0	4.9	3	4.20	●
.088	M 6	1.00	80	10	30.0	28.0	6.0	4.9	3	5.00	●
.160	M 8	1.25	90	13	35.0	33.0	8.0	6.2	3	6.80	●
.174	M10	1.50	100	15	39.0	37.0	10.0	8.0	3	8.50	●

											INTEGRAL
Example: Order-N°.											EI0051
Article-N°.											
α-Code											
Ø Code	d	P	L	l	l1	l3	d1	a			
.240	M12	1.75	110	18	50.0	48.0	9.0	7.0	3	10.20	●
.244	M14	2.00	110	20	58.0	56.0	11.0	9.0	4	12.00	●
.246	M16	2.00	110	20	58.0	56.0	12.0	9.0	4	14.00	●
.312	M18	2.50	125	25	65.0	63.0	14.0	11.0	4	15.50	●
.314	M20	2.50	140	25	72.0	70.0	16.0	12.0	4	17.50	●
.316	M22	2.50	140	25	72.0	70.0	18.0	14.5	4	19.50	●
.320	M24	3.00	160	30	74.0	72.0	18.0	14.5	4	21.00	●

Application



A diagram showing a drill bit with a red double-headed arrow indicating the cutting edge length.



Material
Cast aluminium

CuAlFe
(Ampco)

[illegible]

Application



A diagram showing a tool with a red double-headed arrow indicating a range of application.

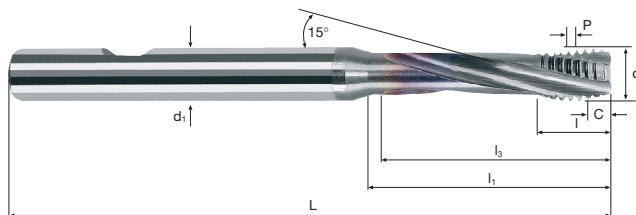


Material
Cast aluminium

CuAlFe
(Ampco)

[illegible]

**ISO 2
(6H)**

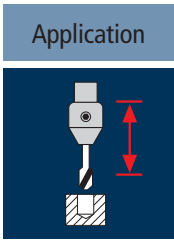


M

Cu
Copper

GG(G)

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Material		M	ø [mm]	P [mm]	V_c 1.0 x d	n [min ⁻¹]	V_c 1.5 x d	n [min ⁻¹]	V_c 2.0 x d	n [min ⁻¹]
Cast aluminium		M 6	6.0	1.00	80	4245	60	3185	40	2120
		M 7	7.0	1.00	80	3640	60	2730	40	1820
		M 8	8.0	1.25	80	3185	60	2385	40	1590
		M10	10.0	1.50	80	2545	60	1910	40	1275
CuAlFe (Ampco)		M 6	6.0	1.00	10	530	8	425	7	370
		M 7	7.0	1.00	10	455	8	365	7	320
		M 8	8.0	1.25	10	400	8	320	7	280
		M10	10.0	1.50	10	320	8	255	7	225

Incool



ISO 2
(6H)

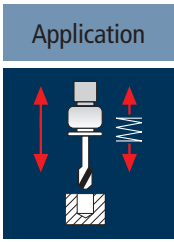


Cu
Copper

GG(G)

TiCN

EH6301



Material	M	ø	P	V _c	n	v _f	V _c	n	v _f	V _c	n	v _f
		[mm]	[mm]	1.0 x d	[min ⁻¹]	[100%]	1.5 x d	[min ⁻¹]	[100%]	2.0 x d	[min ⁻¹]	[100%]
Cast aluminium	M 4	4.0	0.70	80	6365	4456	60	4775	3343	40	3185	2230
	M 5	5.0	0.80	80	5095	4076	60	3820	3056	40	2545	2036
	M 6	6.0	1.00	80	4245	4245	60	3185	3185	40	2120	2120
	M 8	8.0	1.25	80	3185	3981	60	2385	2981	40	1590	1988
	M10	10.0	1.50	80	2545	3818	60	1910	2865	40	1275	1913
	M12	12.0	1.75	80	2120	3710	60	1590	2783	40	1060	1855
	M14	14.0	2.00	80	1820	3640	60	1365	2730	40	910	1820
CuAlFe (Ampco)	M 4	4.0	0.70	10	795	557	8	635	445	7	555	389
	M 5	5.0	0.80	10	635	508	8	510	408	7	445	356
	M 6	6.0	1.00	10	530	530	8	425	425	7	370	370
	M 8	8.0	1.25	10	400	500	8	320	400	7	280	350
	M10	10.0	1.50	10	320	480	8	255	383	7	225	338
	M12	12.0	1.75	10	265	464	8	210	368	7	185	324
	M14	14.0	2.00	10	225	450	8	180	360	7	160	320
	M16	16.0	2.00	10	200	400	8	160	320	7	140	280

Taps durotap A

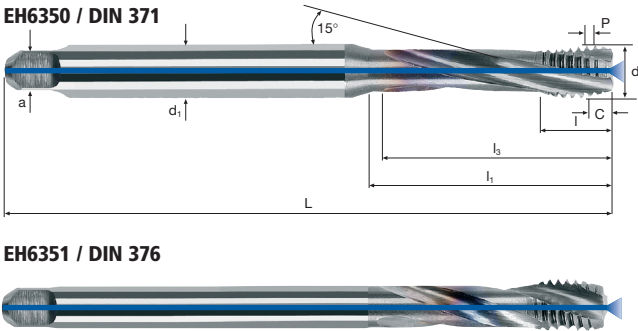
Incool



M

ISO 2
(6H)

HM
MG10



AI
Aluminium
Cast

Cu
Copper

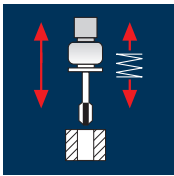
GG(G)

Example: Order-N°.											TiCN	
Article-N°.											EH6350	
α-Code												
Ø Code	d	P	L	l	l ₁	l ₃	d ₁	a				
.058 *	M 4	0.70	63	7	21	19	4.5	3.4	3	3.30		●
.084 *	M 5	0.80	70	8	25	23	6.0	4.9	3	4.20		●
.088	M 6	1.00	80	10	30	28	6.0	4.9	3	5.00		●
.160	M 8	1.25	90	13	35	33	8.0	6.2	3	6.80		●
.174	M10	1.50	100	15	39	37	10.0	8.0	3	8.50		●

Example: Order-N°.											TiCN	
Article-N°.											EH6351	
α-Code												
Ø Code	d	P	L	l	l ₁	l ₃	d ₁	a				
.240	M12	1.75	110	18	50	48	9.0	7.0	3	10.20		●
.244	M14	2.00	110	20	58	56	11.0	9.0	4	12.00		●
.246	M16	2.00	110	20	58	56	12.0	9.0	4	14.00		●
* without internal cooling												

Application

The diagram illustrates a mechanical system. A mass, represented by a grey rectangle, is connected to a fixed base (hatched rectangle) via a spring and a damper in parallel. The spring is shown as a coiled line, and the damper is shown as a piston-cylinder assembly. Red arrows indicate the displacement of the mass from its equilibrium position.



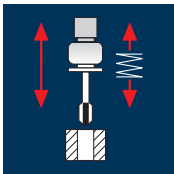
Material
Titanium alloys
> 300 HB
[Ti6Al4V]

[illegible]

Application



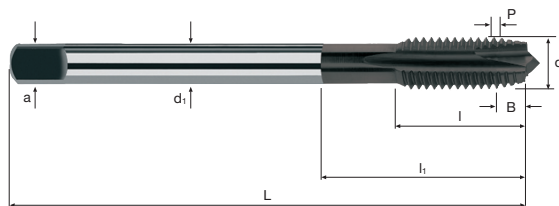
The diagram illustrates a mechanical system. A mass (represented by a grey rectangle) is connected to a fixed base (represented by a hatched rectangle) via a spring (represented by a coiled line) and a damper (represented by a piston in a cylinder). Red arrows indicate the direction of motion, showing both displacement and velocity.



Material
Titanium alloys
> 300 HB
[Ti6Al4V]

[illegible]

**ISO 2
(6H)**



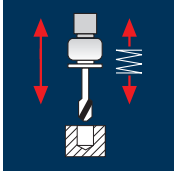
M

Ti
Titanium

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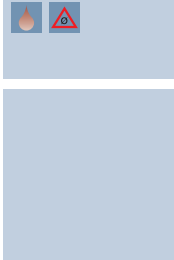
Application

The diagram shows a mechanical assembly. A central vertical shaft passes through a block at the bottom. A piston is mounted on the shaft, and a spring is attached to the top of the piston. Red arrows indicate the direction of movement: a double-headed arrow on the left and a single-headed arrow pointing up on the right, suggesting the assembly can move vertically.



Material
Titanium alloys
> 300 HB
[Ti6Al4V]

Titanium alloys
> 300 HB
[Ti6Al4V]

[illegible]

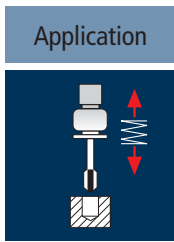


Form C



Ti
Titanium

Example: Order-N°.												TRIBO
Article-N°.												ET0756
ø-Code												
Ø Code	d	P	L	l	h ₁	h ₃	d ₁	a				
.240	M12	1.75	110	18	50.0	48.0	9.0	7.0	4	10.40		●
.244	M14	2.00	110	20	58.0	56.0	11.0	9.0	4	12.20		●
.246	M16	2.00	110	20	58.0	56.0	12.0	9.0	4	14.20		●
.312	M18	2.50	125	25	65.0	63.0	14.0	11.0	5	15.70		●
.314	M20	2.50	140	25	72.0	70.0	16.0	12.0	5	17.70		●
.316	M22	2.50	140	25	72.0	70.0	18.0	14.5	5	19.70		●
.320	M24	3.00	160	30	74.0	72.0	18.0	14.5	5	21.20		●
* The given dimension is out of norm												



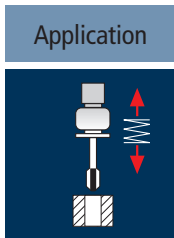
Material
Nickel base alloys not hardened
 

Nickel base alloys not hardened
 

Nickel base alloys hardened
 

Nickel base alloys hardened
 

M	ø [mm]	P [mm]	v_c 1.0 x d	n [min ⁻¹]	v_f [100%]	v_c 1.5 x d	n [min ⁻¹]	v_f [100%]	
M 2	2.0	0.40	3	475	190	2	320	128	
M 2.5	2.5	0.45	3	380	171	2	255	115	
M 3	3.0	0.50	3	320	160	2	210	105	
M 4	4.0	0.70	3	240	168	2	160	112	
M 5	5.0	0.80	3	190	152	2	125	100	
M 6	6.0	1.00	3	160	160	2	105	105	
M 8	8.0	1.25	3	120	150	2	80	100	
M10	10.0	1.50	3	95	143	2	65	98	
M12	12.0	1.75	3	80	140	2	55	96	
M14	14.0	2.00	3	70	140	2	45	90	
M16	16.0	2.00	3	60	120	2	40	80	
M18	18.0	2.50	3	55	138	2	35	88	
M20	20.0	2.50	3	50	125	2	30	75	
M22	22.0	2.50	3	45	113	2	30	75	
M24	24.0	3.00	3	40	120	2	25	75	
M 2	2.0	0.40	2	320	128	2	320	128	
M 2.5	2.5	0.45	2	255	115	2	255	115	
M 3	3.0	0.50	2	210	105	2	210	105	
M 4	4.0	0.70	2	160	112	2	160	112	
M 5	5.0	0.80	2	125	100	2	125	100	
M 6	6.0	1.00	2	105	105	2	105	105	
M 8	8.0	1.25	2	80	100	2	80	100	
M10	10.0	1.50	2	65	98	2	65	98	
M12	12.0	1.75	2	55	96	2	55	96	
M14	14.0	2.00	2	45	90	2	45	90	
M16	16.0	2.00	2	40	80	2	40	80	
M18	18.0	2.50	2	35	88	2	35	88	
M20	20.0	2.50	2	30	75	2	30	75	
M22	22.0	2.50	2	30	75	2	30	75	
M24	24.0	3.00	2	25	75	2	25	75	



Material
Nickel base alloys not hardened
 

Nickel base alloys not hardened
 

Nickel base alloys hardened
 

Nickel base alloys hardened
 

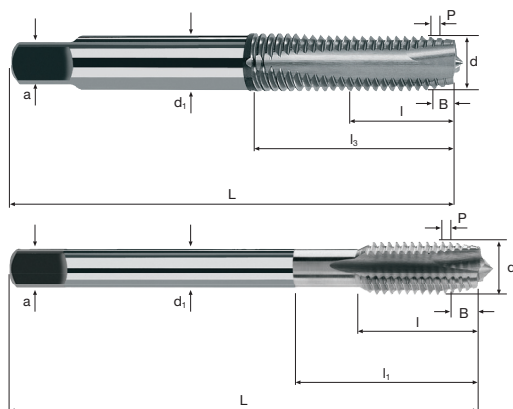
M	ø [mm]	P [mm]	v_c 1.0 x d	n [min ⁻¹]	v_f [100%]	v_c 1.5 x d	n [min ⁻¹]	v_f [100%]	
M 2	2.0	0.40	3	475	190	2	320	128	
M 2.5	2.5	0.45	3	380	171	2	255	115	
M 3	3.0	0.50	3	320	160	2	210	105	
M 4	4.0	0.70	3	240	168	2	160	112	
M 5	5.0	0.80	3	190	152	2	125	100	
M 6	6.0	1.00	3	160	160	2	105	105	
M 8	8.0	1.25	3	120	150	2	80	100	
M10	10.0	1.50	3	95	143	2	65	98	
M12	12.0	1.75	3	80	140	2	55	96	
M14	14.0	2.00	3	70	140	2	45	90	
M16	16.0	2.00	3	60	120	2	40	80	
M18	18.0	2.50	3	55	138	2	35	88	
M20	20.0	2.50	3	50	125	2	30	75	
M22	22.0	2.50	3	45	113	2	30	75	
M24	24.0	3.00	3	40	120	2	25	75	
M 2	2.0	0.40	2	320	128	2	320	128	
M 2.5	2.5	0.45	2	255	115	2	255	115	
M 3	3.0	0.50	2	210	105	2	210	105	
M 4	4.0	0.70	2	160	112	2	160	112	
M 5	5.0	0.80	2	125	100	2	125	100	
M 6	6.0	1.00	2	105	105	2	105	105	
M 8	8.0	1.25	2	80	100	2	80	100	
M 10	10.0	1.50	2	65	98	2	65	98	
M 12	12.0	1.75	2	55	96	2	55	96	
M14	14.0	2.00	2	45	90	2	45	90	
M16	16.0	2.00	2	40	80	2	40	80	
M18	18.0	2.50	2	35	88	2	35	88	
M20	20.0	2.50	2	30	75	2	30	75	
M22	22.0	2.50	2	30	75	2	30	75	
M24	24.0	3.00	2	25	75	2	25	75	

M

ISO 2
(6H)



**HSS
PM/F**



Nickel-Alloys

[illegible]

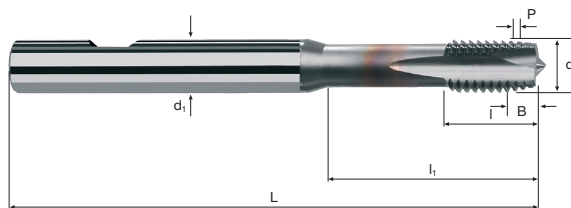


M

ISO 2
(6H)



**HSS
PM/F**



M

Rm

< 850

Rm

850-1100

Inox

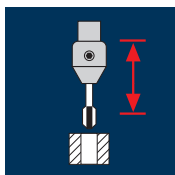
Stainless

GG(G)
Aluminium

Aluminium

[illegible]

Application



Material

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
850 - 1100 N/mm²

Cast iron
GG(G)

M	ø [mm]	P [mm]	V _c 1.5 x d	n [min ⁻¹]	V _c 2.0 x d	n [min ⁻¹]	V _c 3.0 x d	n [min ⁻¹]
M 6	6.0	1.00	25	1325	20	1060	15	795
M 8	8.0	1.25	25	995	20	795	15	595
M10	10.0	1.50	25	795	20	635	15	475
M12	12.0	1.75	25	665	20	530	15	400
M14	14.0	2.00	25	570	20	455	15	340
M16	16.0	2.00	25	495	20	400	15	300
M18	18.0	2.50	25	440	20	355	15	265
M20	20.0	2.50	25	400	20	320	15	240
M 6	6.0	1.00	22	1165	18	955	12	635
M 8	8.0	1.25	22	875	18	715	12	475
M10	10.0	1.50	22	700	18	575	12	380
M12	12.0	1.75	22	585	18	475	12	320
M14	14.0	2.00	22	500	18	410	12	275
M16	16.0	2.00	22	440	18	360	12	240
M18	18.0	2.50	22	390	18	320	12	210
M20	20.0	2.50	22	350	18	285	12	190
M 6	6.0	1.00	18	955	12	635	10	530
M 8	8.0	1.25	18	715	12	475	10	400
M10	10.0	1.50	18	575	12	380	10	320
M12	12.0	1.75	18	475	12	320	10	265
M14	14.0	2.00	18	410	12	275	10	225
M16	16.0	2.00	18	360	12	240	10	200
M18	18.0	2.50	18	320	12	210	10	175
M20	20.0	2.50	18	285	12	190	10	160
M 6	6.0	1.00	22	1165	20	1060	18	955
M 8	8.0	1.25	22	875	20	795	18	715
M10	10.0	1.50	22	700	20	635	18	575
M12	12.0	1.75	22	585	20	530	18	475
M14	14.0	2.00	22	500	20	455	18	410
M16	16.0	2.00	22	440	20	400	18	360
M18	18.0	2.50	22	390	20	355	18	320
M20	20.0	2.50	22	350	20	320	18	285

Material

Stainless steel
[Cr-Ni/1.4301]



Wrought aluminium
alloys Si < 6%
hardened

M	ø [mm]	P [mm]	V _c 1.5 x d	n [min ⁻¹]	V _c 2.0 x d	n [min ⁻¹]	V _c 3.0 x d	n [min ⁻¹]
M 6	6.0	1.00	6	320	4	210	3	160
M 8	8.0	1.25	6	240	4	160	3	120
M10	10.0	1.50	6	190	4	125	3	95
M12	12.0	1.75	6	160	4	105	3	80
M14	14.0	2.00	6	135	4	90	3	70
M16	16.0	2.00	6	120	4	80	3	60
M18	18.0	2.50	6	105	4	70	3	55
M20	20.0	2.50	6	95	4	65	3	50
M 6	6.0	1.00	25	1325	20	1060	15	795
M 8	8.0	1.25	25	995	20	795	15	595
M10	10.0	1.50	25	795	20	635	15	475
M12	12.0	1.75	25	665	20	530	15	400
M14	14.0	2.00	25	570	20	455	15	340
M16	16.0	2.00	25	495	20	400	15	300
M18	18.0	2.50	25	440	20	355	15	265
M20	20.0	2.50	25	400	20	320	15	240
M 6	6.0	1.00	25	1325	20	1060	15	795
M 8	8.0	1.25	25	995	20	795	15	595
M10	10.0	1.50	25	795	20	635	15	475
M12	12.0	1.75	25	665	20	530	15	400
M14	14.0	2.00	25	570	20	455	15	340
M16	16.0	2.00	25	495	20	400	15	300
M18	18.0	2.50	25	440	20	355	15	265
M20	20.0	2.50	25	400	20	320	15	240
M 6	6.0	1.00	25	1325	20	1060	15	795
M 8	8.0	1.25	25	995	20	795	15	595
M10	10.0	1.50	25	795	20	635	15	475
M12	12.0	1.75	25	665	20	530	15	400
M14	14.0	2.00	25	570	20	455	15	340
M16	16.0	2.00	25	495	20	400	15	300
M18	18.0	2.50	25	440	20	355	15	265
M20	20.0	2.50	25	400	20	320	15	240

Incool

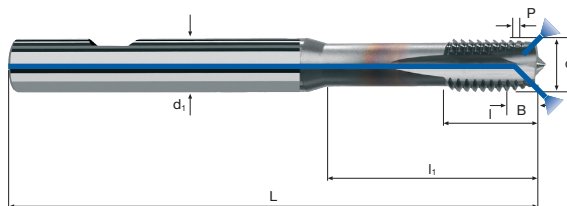


M

ISO 2
(6H)



**HSS
PM/F**



M

Rm

< 850

Rm

850-1100

Inox

Stainless

GG(G)
Aluminium

Aluminium

[illegible]

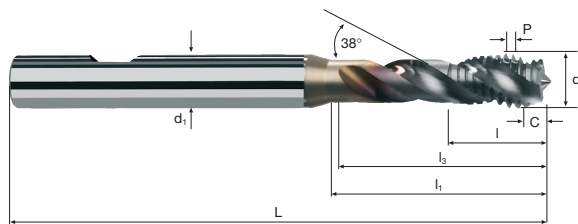


M

ISO 2
(6H)



**HSS
PM/F**



M

Rm

< 850

Rm

850-1100

Inox

Stainless

GG(G)
Aluminium

Aluminium

[illegible]

Incool



M

A diagram of a house-shaped polygon. The top part is a triangle with a vertex angle of 60° . The base of this triangle is the top edge of a rectangle. The rectangle has a height of 10 units. The total width of the polygon is 10 units.

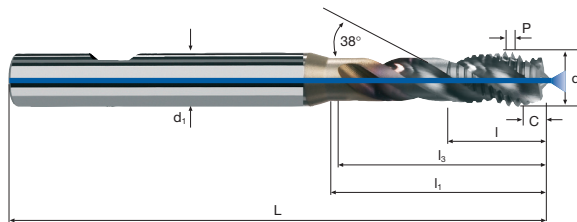


DIN
1835B
ISO
3338

DIN
1835B
ISO
3338



Form C



M

Rm

< 850

Rm

850-1100

Inox

Stainless

GG(G)
Aluminium

www.fraisa.com

Taps u-tap

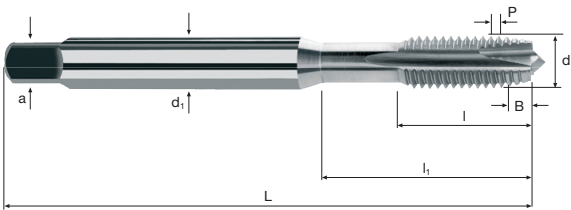


M

ISO 2
(6H)

HSS-E
Co5

Form B



M

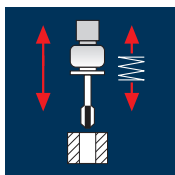
Rm
< 850

Inox
Stainless

GG(G)
Aluminium
Copper

										VAP	
										E10800	EV10800
Example: Order-Nº.											
Article-Nº. α-Code											
E10800 .010											
Ø Code	d	P	L	l	l1	d1	a				
.010	M 1	0.25	40	5.5	—	2.5	2.1	2	0.80 *	●	●
.012	M 1.2	0.25	40	5.5	—	2.5	2.1	2	1.00	●	●
.020	M 1.4	0.30	40	7.0	—	2.5	2.1	2	1.15 *	●	●
.022	M 1.6	0.35	40	8.0	—	2.5	2.1	2	1.30	●	●
.024	M 1.7	0.35	40	8.0	—	2.5	2.1	2	1.40	●	●
.026	M 1.8	0.35	40	8.0	—	2.5	2.1	2	1.50	●	●
.034	M 2	0.40	45	8.0	—	2.8	2.1	2	1.60	●	●
.036	M 2.2	0.45	45	9.0	—	2.8	2.1	2	1.75	●	●
.038	M 2.3	0.40	45	9.0	—	2.8	2.1	2	1.90	●	●
.040	M 2.5	0.45	50	9.0	—	2.8	2.1	2	2.05	●	●
.042	M 2.6	0.45	50	9.0	—	2.8	2.1	2	2.15	●	●
.044	M 3	0.50	56	12.0	18.0	3.5	2.7	3	2.50	●	●
.056	M 3.5	0.60	56	12.0	20.0	4.0	3.0	3	2.90	●	●
.058	M 4	0.70	63	13.0	21.0	4.5	3.4	3	3.30	●	●
.061	M 4.5	0.75	70	14.0	25.0	6.0	4.9	3	3.75	●	●
.084	M 5	0.80	70	15.0	25.0	6.0	4.9	3	4.20	●	●
.088	M 6	1.00	80	17.0	30.0	6.0	4.9	3	5.00	●	●
.089	M 7	1.00	80	17.0	30.0	7.0	6.2	3	6.00	●	●
.160	M 8	1.25	90	20.0	35.0	8.0	6.2	3	6.80	●	●
.174	M10	1.50	100	22.0	39.0	10.0	8.0	3	8.50	●	●
≤ M1.4 Tolerance ISO 1 (4H)											
* The given dimension is out of norm											
For larger dimensions see article no. E10801, page 213											

Application



Material

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Wrought aluminium
alloys Si < 6%
hardened

Recommendation:
uncoated

Stainless steel
[Cr-Ni/1.4301]



M	ø [mm]	P [mm]	V _c 1.5 x d			V _c 2.0 x d			V _c 3.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M12	12.0	1.75	18	475	831	15	400	700	12	320	560
M14	14.0	2.00	18	410	820	15	340	680	12	275	550
M16	16.0	2.00	18	360	720	15	300	600	12	240	480
M18	18.0	2.50	18	320	800	15	265	663	12	210	525
M20	20.0	2.50	18	285	713	15	240	600	12	190	475
M22	22.0	2.50	18	260	650	15	215	538	12	175	438
M24	24.0	3.00	18	240	720	15	200	600	12	160	480
M12	12.0	1.75	15	400	700	10	265	464	8	210	368
M14	14.0	2.00	15	340	680	10	225	450	8	180	360
M16	16.0	2.00	15	300	600	10	200	400	8	160	320
M18	18.0	2.50	15	265	663	10	175	438	8	140	350
M20	20.0	2.50	15	240	600	10	160	400	8	125	313
M22	22.0	2.50	15	215	538	10	145	363	8	115	288
M24	24.0	3.00	15	200	600	10	135	405	8	105	315
M12	12.0	1.75	15	400	700	12	320	560	10	265	464
M14	14.0	2.00	15	340	680	12	275	550	10	225	450
M16	16.0	2.00	15	300	600	12	240	480	10	200	400
M18	18.0	2.50	15	265	663	12	210	525	10	175	438
M20	20.0	2.50	15	240	600	12	190	475	10	160	400
M22	22.0	2.50	15	215	538	12	175	438	10	145	363
M24	24.0	3.00	15	200	600	12	160	480	10	135	405
M12	2.6	0.45	5	610	275	4	490	221	3	365	164
M14	3.0	0.50	5	530	265	4	425	213	3	320	160
M16	3.5	0.60	5	455	273	4	365	219	3	275	165
M18	4.0	0.70	5	400	280	4	320	224	3	240	168
M20	4.5	0.75	5	355	266	4	285	214	3	210	158
M22	5.0	0.80	5	320	256	4	255	204	3	190	152
M24	6.0	1.00	5	265	265	4	210	210	3	160	160

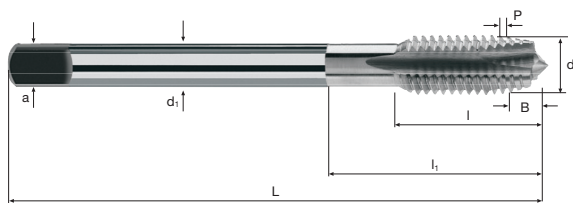


M

ISO 2
(6H)



HSS-E
Co5

DIN
376

M

Rm

< 850

Inox

Stainless

GG(G)
Aluminium
Copper[illegible]

Taps u-tap

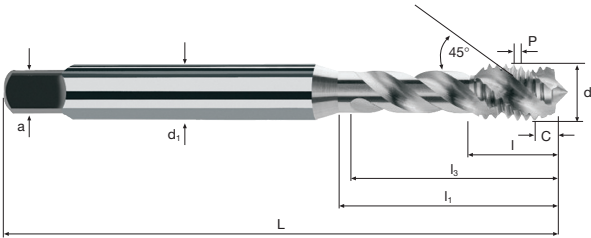


M

ISO 2
(6H)

HSS-E
Co5

Form C



M

Rm
< 850

Inox
Stainless

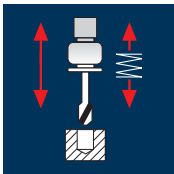
GG(G)
Aluminium
Copper

											VAP	
											E10820	EV10820
Example: Order-Nº.												
Article-Nº. α-Code												
E10820 .022												
Ø Code	d	P	L	l	l1	l3	d1	a				
.022	M 1.6	0.35	40	8.0	—	9.0	2.5	2.1	3	1.30	●	●
.024	M 1.7	0.35	40	8.0	—	9.0	2.5	2.1	3	1.40	●	●
.026	M 1.8	0.35	40	8.0	—	9.0	2.5	2.1	3	1.50	●	●
.034	M 2	0.40	45	8.0	—	10.5	2.8	2.1	3	1.60	●	●
.036	M 2.2	0.45	45	9.0	—	12.5	2.8	2.1	3	1.75	●	●
.038	M 2.3	0.40	45	9.0	—	12.5	2.8	2.1	3	1.90	●	●
.040	M 2.5	0.45	50	9.0	—	13.0	2.8	2.1	3	2.05	●	●
.042	M 2.6	0.45	50	9.0	—	13.0	2.8	2.1	3	2.15	●	●
.044	M 3	0.50	56	4.0	18.0	16.0	3.5	2.7	3	2.50	●	●
.056	M 3.5	0.60	56	4.8	20.0	18.0	4.0	3.0	3	2.90	●	●
.058	M 4	0.70	63	5.6	21.0	19.0	4.5	3.4	3	3.30	●	●
.061	M 4.5	0.75	70	6.0	25.0	23.0	6.0	4.9	3	3.75	●	●
.084	M 5	0.80	70	6.4	25.0	23.0	6.0	4.9	3	4.20	●	●
.088	M 6	1.00	80	8.0	30.0	28.0	6.0	4.9	3	5.00	●	●
.089	M 7	1.00	80	8.0	30.0	28.0	7.0	6.2	3	6.00	●	●
.160	M 8	1.25	90	10.0	35.0	33.0	8.0	6.2	3	6.80	●	●
.174	M10	1.50	100	12.0	39.0	37.0	10.0	8.0	3	8.50	●	●
For larger dimensions see article no. E10821, page 217												

Application



The diagram shows a mechanical assembly. A central vertical shaft passes through a block at the bottom. A piston is attached to the shaft. To the right of the piston, a spring is shown in a compressed state, with red arrows indicating its compression and extension. To the left of the piston, another set of red arrows indicates vertical movement.



Material

Steel
< 500 N/mm²

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

[illegible]

Material

Wrought aluminium alloys Si < 6% hardened

Recommendation:
uncoated

Recommendation:
uncoated

Wrought aluminium alloys Si < 6% hardened

Recommendation:
uncoated

Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]

[illegible]

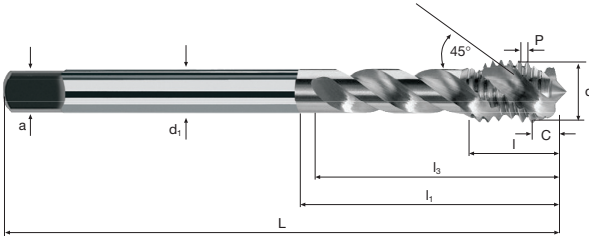


M

ISO 2
(6H)

HSS-E
Co5

Form C



M

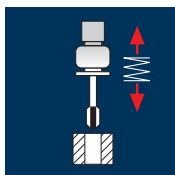
Rm
< 850

Inox
Stainless

GG(G)
Aluminium
Copper

											VAP	
											E10821	EV10821
Example: Order-Nº.	Article-Nº.		α-Code									
	E10821		.240									
Ø Code	d	P	L	l	l ₁	l ₃	d ₁	a				
.240	M12	1.75	110	14	50	48	9	7.0	3	10.20	●	●
.244	M14	2.00	110	16	58	56	11	9.0	4	12.00	●	●
.246	M16	2.00	110	16	58	56	12	9.0	4	14.00	●	●
.312	M18	2.50	125	20	65	63	14	11.0	4	15.50	●	●
.314	M20	2.50	140	20	72	70	16	12.0	4	17.50	●	●
.316	M22	2.50	140	20	72	70	18	14.5	4	19.50	●	●
.320	M24	3.00	160	24	74	72	18	14.5	4	21.00	●	●
.322	M27	3.00	160	30	84	82	20	16.0	4	24.00	●	●
.374	M30	3.50	180	35	92	90	22	18.0	4	26.50	●	●
.376	M33	3.50	180	35	100	98	25	20.0	4	29.50	●	●
.378	M36	4.00	200	40	101	99	28	22.0	4	32.00	●	●
.380	M39	4.00	200	40	101	99	32	24.0	4	35.00	●	●
.382	M42	4.50	200	45	106	104	32	24.0	4	37.50	●	●

Application



Material

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Wrought aluminium
alloys Si < 6%
hardened

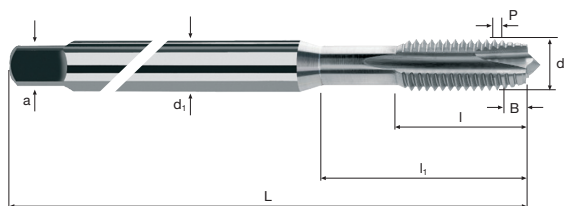
Cast iron
GG(G)

M	ø [mm]	P [mm]	V _c			n			V _c			n		
			1.5 x d			1.5 x d			2.0 x d			2.0 x d		
			v _c	n	v _f	v _c	n	v _f	v _c	n	v _f	v _c	n	v _f
			[m/min]	[min ⁻¹]	[100%]	[m/min]	[min ⁻¹]	[100%]	[m/min]	[min ⁻¹]	[100%]	[m/min]	[min ⁻¹]	[100%]
M 3	3.0	0.50	8	850	425	6	635	318	4	425	213	4	425	213
M 4	4.0	0.70	8	635	445	6	475	333	4	320	224	4	320	224
M 5	5.0	0.80	8	510	408	6	380	304	4	255	204	4	255	204
M 6	6.0	1.00	8	425	425	6	320	320	4	210	210	4	210	210
M 8	8.0	1.25	8	320	400	6	240	300	4	160	200	4	160	200
M10	10.0	1.50	8	255	383	6	190	285	4	125	188	4	125	188
M 3	3.0	0.50	5	530	265	4	425	213	3	320	160	3	320	160
M 4	4.0	0.70	5	400	280	4	320	224	3	240	168	3	240	168
M 5	5.0	0.80	5	320	256	4	255	204	3	190	152	3	190	152
M 6	6.0	1.00	5	265	265	4	210	210	3	160	160	3	160	160
M 8	8.0	1.25	5	200	250	4	160	200	3	120	150	3	120	150
M10	10.0	1.50	5	160	240	4	125	188	3	95	143	3	95	143
M 3	3.0	0.50	8	850	425	6	635	318	4	425	213	4	425	213
M 4	4.0	0.70	8	635	445	6	475	333	4	320	224	4	320	224
M 5	5.0	0.80	8	510	408	6	380	304	4	255	204	4	255	204
M 6	6.0	1.00	8	425	425	6	320	320	4	210	210	4	210	210
M 8	8.0	1.25	8	320	400	6	240	300	4	160	200	4	160	200
M10	10.0	1.50	8	255	383	6	190	285	4	125	188	4	125	188
M 3	3.0	0.50	12	1275	638	10	1060	530	8	850	425	8	850	425
M 4	4.0	0.70	12	955	669	10	795	557	8	635	445	8	635	445
M 5	5.0	0.80	12	765	612	10	635	508	8	510	408	8	510	408
M 6	6.0	1.00	12	635	635	10	530	530	8	425	425	8	425	425
M 8	8.0	1.25	12	475	594	10	400	500	8	320	400	8	320	400
M10	10.0	1.50	12	380	570	10	320	480	8	255	383	8	255	383

Special long execution



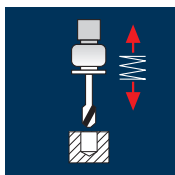
ISO 2
(6H)



M

GG(G)
Aluminium[illegible]

Application



Material

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Wrought aluminium
alloys Si < 6%
hardened

Cast iron
GG(G)

M	ø [mm]	P [mm]	v _c			n			v _f		
			1.0 x d	[min ⁻¹]	[100%]	1.5 x d	[min ⁻¹]	[100%]	2.0 x d	[min ⁻¹]	[100%]
M 3	3.0	0.50	8	850	425	6	635	318	4	425	213
M 4	4.0	0.70	8	635	445	6	475	333	4	320	224
M 5	5.0	0.80	8	510	408	6	380	304	4	255	204
M 6	6.0	1.00	8	425	425	6	320	320	4	210	210
M 8	8.0	1.25	8	320	400	6	240	300	4	160	200
M10	10.0	1.50	8	255	383	6	190	285	4	125	188
M 3	3.0	0.50	5	530	265	4	425	213	3	320	160
M 4	4.0	0.70	5	400	280	4	320	224	3	240	168
M 5	5.0	0.80	5	320	256	4	255	204	3	190	152
M 6	6.0	1.00	5	265	265	4	210	210	3	160	160
M 8	8.0	1.25	5	200	250	4	160	200	3	120	150
M10	10.0	1.50	5	160	240	4	125	188	3	95	143
M 3	3.0	0.50	8	850	425	6	635	318	4	425	213
M 4	4.0	0.70	8	635	445	6	475	333	4	320	224
M 5	5.0	0.80	8	510	408	6	380	304	4	255	204
M 6	6.0	1.00	8	425	425	6	320	320	4	210	210
M 8	8.0	1.25	8	320	400	6	240	300	4	160	200
M10	10.0	1.50	8	255	383	6	190	285	4	125	188
M 3	3.0	0.50	12	1275	638	10	1060	530	8	850	425
M 4	4.0	0.70	12	955	669	10	795	557	8	635	445
M 5	5.0	0.80	12	765	612	10	635	508	8	510	408
M 6	6.0	1.00	12	635	635	10	530	530	8	425	425
M 8	8.0	1.25	12	475	594	10	400	500	8	320	400
M10	10.0	1.50	12	380	570	10	320	480	8	255	383

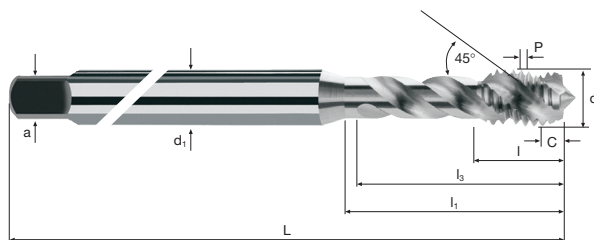
Special long execution



ISO 2
(6H)



**HSS
PM/F**



M

< 850

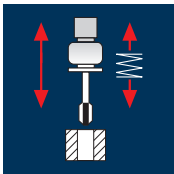
GG(G)
Aluminium

www.fraisa.com

Application



The diagram illustrates a mechanical system. A mass (represented by a grey rectangle) is connected to a fixed base (represented by a hatched rectangle) via a spring (represented by a coiled line) and a damper (represented by a piston in a cylinder). Red arrows indicate the direction of motion, showing both displacement and velocity.



Material

Steel
< 500 N/mm²

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

[illegible]

Material

Wrought aluminium alloys Si < 6% hardened

Wrought aluminium alloys Si < 6% hardened

Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]

[illegible]



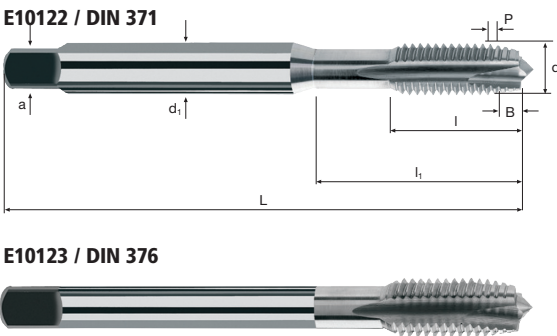
M-LH

ISO 2
(6H)

HSS-E
Co5

DIN
371/376

Form B



M

Rm
< 850

Inox
Stainless

GG(G)
Aluminium
Copper

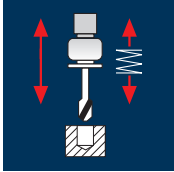
Example: Order-N°.											Article-N°.		ø-Code			
											E10122		.034			
ø Code	d	P		L	l	l ₁	d ₁	a								
.034	M 2	0.40	LH	45	8.0	—	2.8	2.1	2	1.60	●		●			
.040	M 2.5	0.45	LH	50	9.0	—	2.8	2.1	2	2.05	●		●			
.044	M 3	0.50	LH	56	12.0	18.0	3.5	2.7	3	2.50	●		●			
.058	M 4	0.70	LH	63	13.0	21.0	4.5	3.4	3	3.30	●		●			
.084	M 5	0.80	LH	70	15.0	25.0	6.0	4.9	3	4.20	●		●			
.088	M 6	1.00	LH	80	17.0	30.0	6.0	4.9	3	5.00	●		●			
.160	M 8	1.25	LH	90	20.0	35.0	8.0	6.2	3	6.80	●		●			
.174	M10	1.50	LH	100	22.0	39.0	10.0	8.0	3	8.50	●		●			

Example: Order-N°.											Article-N°.		ø-Code			
											E10123		.240			
ø Code	d	P		L	l	l ₁	d ₁	a								
.240	M12	1.75	LH	110	24.0	40.0	9.0	7.0	3	10.20	●		●			
.246	M16	2.00	LH	110	27.0	40.0	12.0	9.0	3	14.00	●		●			
.314	M20	2.50	LH	140	32.0	50.0	16.0	12.0	4	17.50	●		●			
.320	M24	3.00	LH	160	34.0	60.0	18.0	14.5	4	21.00	●		●			

Application



The diagram shows a mechanical assembly. A central vertical shaft passes through a block at the bottom. A piston is mounted on the shaft, and a spring is attached to the top of the piston. Red arrows indicate the direction of movement: a double-headed arrow on the left and a single-headed arrow pointing up on the right, suggesting the spring's function in the assembly.



Material

Steel
< 500 N/mm²

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

[illegible]

Material

Wrought aluminium alloys Si < 6% hardened

Wrought aluminium alloys Si < 6% hardened

Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]

[illegible]



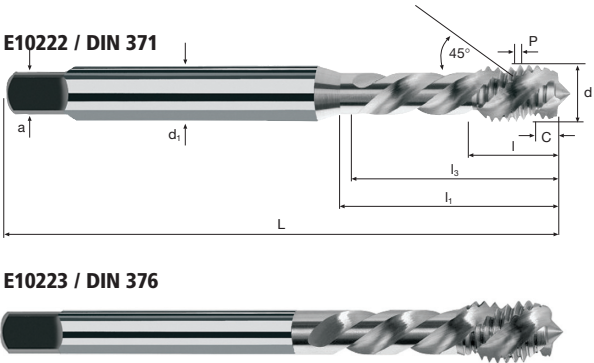
M-LH

ISO 2
(6H)

HSS-E
Co5

DIN
371/376

Form C



Rm
< 850

Inox
Stainless

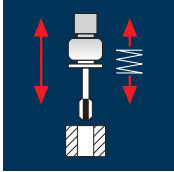
GG(G)
Aluminium
Copper

Example: Order-N°.												Article-N°.		ø-Code		E10222	
												E10222		.034			
ø Code	d	P		L	l	l1	l3	d1	a								
.034	M 2	0.40	LH	45	8.0	—	10.5	2.8	2.1	3	1.60	●					
.040	M 2.5	0.45	LH	50	9.0	—	13.0	2.8	2.1	3	2.05	●					
.044	M 3	0.50	LH	56	4.0	18.0	16.0	3.5	2.7	3	2.50	●					
.058	M 4	0.70	LH	63	5.6	21.0	19.0	4.5	3.4	3	3.30	●					
.084	M 5	0.80	LH	70	6.4	25.0	23.0	6.0	4.9	3	4.20	●					
.088	M 6	1.00	LH	80	8.0	30.0	28.0	6.0	4.9	3	5.00	●					
.160	M 8	1.25	LH	90	10.0	35.0	33.0	8.0	6.2	3	6.80	●					
.174	M10	1.50	LH	100	12.0	39.0	37.0	10.0	8.0	3	8.50	●					

Example: Order-N°.												Article-N°.		ø-Code		E10223	
												E10223		.240			
ø Code	d	P		L	l	l1	l3	d1	a								
.240	M12	1.75	LH	110	14.0	50.0	48.0	9.0	7.0	3	10.20	●					
.246	M16	2.00	LH	110	16.0	58.0	56.0	12.0	9.0	4	14.00	●					
.314	M20	2.50	LH	140	20.0	72.0	70.0	16.0	12.0	4	17.50	●					
.320	M24	3.00	LH	160	24.0	74.0	72.0	18.0	14.5	4	21.00	●					

Application

The diagram illustrates a mechanical system. A mass, represented by a grey rectangle, is connected to a fixed base (hatched rectangle) by a spring and a damper in parallel. The spring is shown as a coiled line, and the damper is shown as a piston in a fluid. Red arrows indicate the displacement of the mass from its equilibrium position.



Material

Steel
 $< 500 \text{ N/mm}^2$

Recommendation:
 adapt $\varnothing$ drillhole
 according to tolerance

Steel
 $< 500 \text{ N/mm}^2$

Recommendation:
 adapt $\varnothing$ drillhole
 according to tolerance

Recommendation:
adapt $\varnothing$ drillhole
according to tolerance

Steel
500 - 850 N/mm²

Recommendation:
adapt $\varnothing$ drillhole
according to tolerance

Steel
500 - 850 N/mm²

Recommendation:
adapt ϕ drillhole
according to tolerance

Material

Wrought aluminium alloys Si < 6% hardened

Recommendation:

Wrought aluminium alloys Si < 6% hardened

Stainless steel
[Cr-Ni/1.4301]

Recommendation:
adapt ø drillhole

Stainless steel
[Cr-Ni/1.4301]

Recommendation:
adapt ø drillhole

according to tolerance

Recommendation:
adapt $\varnothing$ drillhole
according to tolerance

Stainless steel
[Cr-Ni/1.4301]

Recommendation:
adapt $\varnothing$ drillhole
according to tolerance

[illegible][illegible]



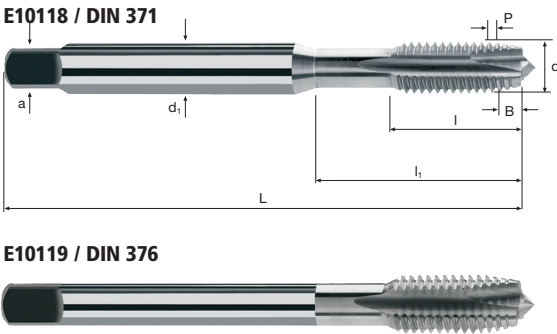
M

ISO 2
+0.1

HSS-E
Co5

DIN
371/376

Form B



Rm
< 850

Inox
Stainless

GG(G)
Aluminium
Copper

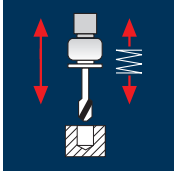
Example: Order-N°.										Article-N°.		ø-Code			
										E10118		.034			
Ø Code	d	P	L	l	l ₁	d ₁	a		Δ						
.034	M 2	0.40	45	8	—	2.8	2.1	2	+0.100	●					
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	+0.100	●					
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	+0.100	●					
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	+0.100	●					
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	+0.100	●					
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	+0.100	●					
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	+0.100	●					
.174	M10	1.50	100	22	39.0	10.0	8.0	3	+0.100	●					

Example: Order-N°.										Article-N°.		ø-Code			
										E10119		.240			
Ø Code	d	P	L	l	l ₁	d ₁	a		Δ						
.240	M12	1.75	110	24	40.0	9.0	7.0	3	+0.100	●					
.246	M16	2.00	110	27	40.0	12.0	9.0	4	+0.100	●					
.314	M20	2.50	140	32	50.0	16.0	12.0	4	+0.100	●					
.320	M24	3.00	160	34	60.0	18.0	14.5	4	+0.100	●					

Application



The diagram shows a mechanical assembly. A central vertical shaft passes through a block at the bottom. A piston is mounted on the shaft, and a spring is attached to the top of the piston. Red arrows indicate the direction of movement: a double-headed arrow on the left and a single-headed arrow pointing up on the right, suggesting the spring's function in the assembly.



Material

Steel
< 500 N/mm²

Recommendation:
adapt ø drillhole
according to tolerance

Steel
< 500 N/mm²

Recommendation:
adapt ø drillhole
according to tolerance

Steel
< 500 N/mm²

Recommendation:
adapt ø drillhole
according to tolerance

Steel
500 - 850 N/mm²

Recommendation:
adapt Ø drillhole
according to tolerance

Steel
500 - 850 N/mm²

Recommendation:
adapt Ø drillhole
according to tolerance

Material

Wrought aluminium alloys Si < 6% hardened

Recommendation:
adapt ϕ drillhole according to tolerance

Wrought aluminium alloys Si < 6% hardened

Recommendation:
adapt $\varnothing$ drillhole according to tolerance

Stainless steel
[Cr-Ni/1.4301]

Recommendation:
adapt Ø drillhole
according to tolerance

Stainless steel
[Cr-Ni/1.4301]

Recommendation:
adapt Ø drillhole
according to tolerance

[illegible][illegible]



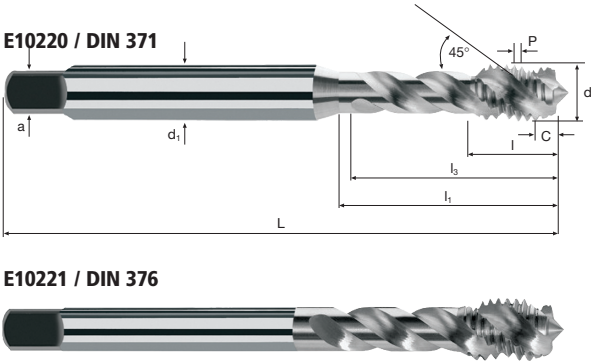
M

ISO 2
+0.1

HSS-E
Co5

DIN
371/376

Form C



Rm < 850							Inox Stainless		GG(G) Aluminium Copper
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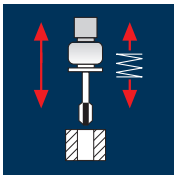
Example: Order-N°.											Article-N°.		ø-Code		E10220	
											E10220		.034			
Ø Code	d	P	L	l	l1	l3	d1	a		Δ						
.034	M 2	0.40	45	8.0	—	10.5	2.8	2.1	3	+0.100	●					
.040	M 2.5	0.45	50	9.0	—	13.0	2.8	2.1	3	+0.100	●					
.044	M 3	0.50	56	4.0	18.0	16.0	3.5	2.7	3	+0.100	●					
.058	M 4	0.70	63	5.6	21.0	19.0	4.5	3.4	3	+0.100	●					
.084	M 5	0.80	70	6.4	25.0	23.0	6.0	4.9	3	+0.100	●					
.088	M 6	1.00	80	8.0	30.0	28.0	6.0	4.9	3	+0.100	●					
.160	M 8	1.25	90	10.0	35.0	33.0	8.0	6.2	3	+0.100	●					
.174	M10	1.50	100	12.0	39.0	37.0	10.0	8.0	3	+0.100	●					

Example: Order-N°.											Article-N°.		ø-Code		E10221	
											E10221		.240			
Ø Code	d	P	L	l	l1	l3	d1	a		Δ						
.240	M12	1.75	110	14.0	50.0	48.0	9.0	7.0	3	+0.100	●					
.246	M16	2.00	110	16.0	58.0	56.0	12.0	9.0	4	+0.100	●					
.314	M20	2.50	140	20.0	72.0	70.0	16.0	12.0	4	+0.100	●					
.320	M24	3.00	160	24.0	74.0	72.0	18.0	14.5	4	+0.100	●					

Application



The diagram illustrates a mechanical system. A mass, represented by a grey rectangle, is connected to a fixed base (hatched rectangle) by a spring and a damper in parallel. A red double-headed arrow on the left indicates the displacement of the mass. A red double-headed arrow on the right indicates the spring force.



Material

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

[illegible]

Material
Steel
1100 - 1300 N/mm²

[illegible]

Taps x-tap



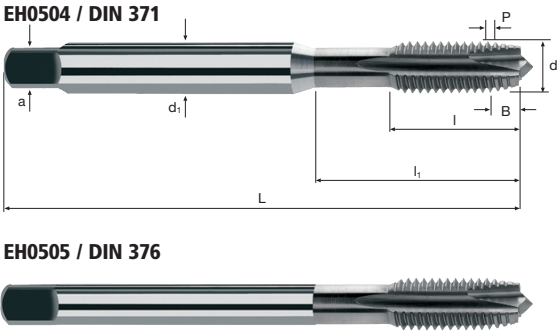
M

ISO 3
(6G)

HSS
PM/F

DIN
371/376

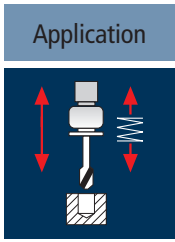
Form B



Rm < 850	Rm 850-1100	Rm 1100-1300							
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Example: Order-N°.										TiCN	
Article-N°.										EH0504	
Ø Code	d	P	L	l	l ₁	d ₁	a		Δ		
.034	M 2	0.40	45	8	—	2.8	2.1	2	+0.015		●
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	+0.015		●
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	+0.016		●
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	+0.019		●
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	+0.020		●
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	+0.024		●
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	+0.025		●
.174	M10	1.50	100	22	39.0	10.0	8.0	3	+0.028		●

Example: Order-N°.										TiCN	
Article-N°.										EH0505	
Ø Code	d	P	L	l	l ₁	d ₁	a		Δ		
.240	M 12	1.75	110	24	40.0	9.0	7.0	3	+0.032		●
.246	M 16	2.00	110	27	40.0	12.0	9.0	3	+0.034		●
.314	M 20	2.50	140	32	50.0	16.0	12.0	4	+0.036		●
.320	M 24	3.00	160	34	60.0	18.0	14.5	4	+0.042		●



Material	M	ø [mm]	P [mm]	V _c 1.0 x d	n [min ⁻¹]	v _f [100%]	V _c 1.5 x d	n [min ⁻¹]	v _f [100%]	V _c 2.0 x d	n [min ⁻¹]	v _f [100%]
Steel 500 - 850 N/mm ²	M 2	2.0	0.40	32	5095	2038	28	4455	1782	22	3500	1400
	M 2.5	2.5	0.45	32	4075	1834	28	3565	1604	22	2800	1260
	M 3	3.0	0.50	32	3395	1698	28	2970	1485	22	2335	1168
	M 4	4.0	0.70	32	2545	1782	28	2230	1561	22	1750	1225
	M 5	5.0	0.80	32	2035	1628	28	1785	1428	22	1400	1120
	M 6	6.0	1.00	32	1700	1700	28	1485	1485	22	1165	1165
	M 8	8.0	1.25	32	1275	1594	28	1115	1394	22	875	1094
	M10	10.0	1.50	32	1020	1530	28	890	1335	22	700	1050
	M12	12.0	1.75	32	850	1488	28	745	1304	22	585	1024
Steel 500 - 850 N/mm ²	M16	16.0	2.00	32	635	1270	28	555	1110	22	440	880
	M20	20.0	2.50	32	510	1275	28	445	1113	22	350	875
	M24	24.0	3.00	32	425	1275	28	370	1110	22	290	870
Steel 850 - 1100 N/mm ²	M 2	2.0	0.40	20	3185	1274	16	2545	1018	10	1590	636
	M 2.5	2.5	0.45	20	2545	1145	16	2035	916	10	1275	574
	M 3	3.0	0.50	20	2120	1060	16	1700	850	10	1060	530
	M 4	4.0	0.70	20	1590	1113	16	1275	893	10	795	557
	M 5	5.0	0.80	20	1275	1020	16	1020	816	10	635	508
	M 6	6.0	1.00	20	1060	1060	16	850	850	10	530	530
	M 8	8.0	1.25	20	795	994	16	635	794	10	400	500
	M10	10.0	1.50	20	635	953	16	510	765	10	320	480
	M12	12.0	1.75	20	530	928	16	425	744	10	265	464
Steel 850 - 1100 N/mm ²	M16	16.0	2.00	20	400	800	16	320	640	10	200	400
	M20	20.0	2.50	20	320	800	16	255	638	10	160	400
	M24	24.0	3.00	20	265	795	16	210	630	10	135	405

Taps x-tap

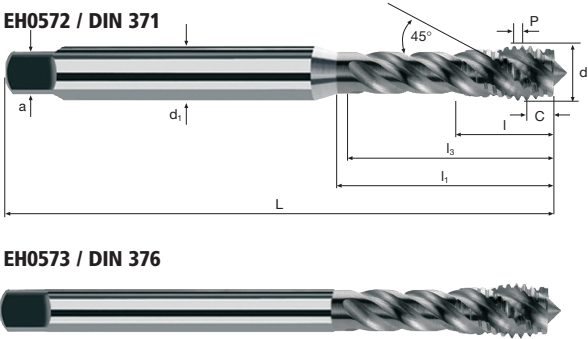


M

ISO 3
(6G)

HSS
PM/F

DIN
371/376

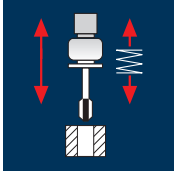


Rm < 850	Rm 850-1100									
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Example: Order-N°.											Article-N°.		α-Code		TiCN	
											EH0572		.034		EH0572	
Ø Code	d	P	L	l	l ₁	l ₃	d ₁	a		Δ						
.034	M 2	0.40	45	8	—	10.5	2.8	2.1	3	+0.015					●	
.040	M 2.5	0.45	50	9	—	13.0	2.8	2.1	3	+0.015					●	
.044	M 3	0.50	56	5	—	16.0	3.5	2.7	3	+0.016					●	
.058	M 4	0.70	63	7	—	19.0	4.5	3.4	3	+0.019					●	
.084	M 5	0.80	70	8	—	23.0	6.0	4.9	3	+0.020					●	
.088	M 6	1.00	80	10	—	28.0	6.0	4.9	3	+0.024					●	
.160	M 8	1.25	90	13	35.0	33.0	8.0	6.2	3	+0.025					●	
.174	M10	1.50	100	15	39.0	37.0	10.0	8.0	4	+0.028					●	

Example: Order-N°.											Article-N°.		α-Code		TiCN	
											EH0573		.240		EH0573	
Ø Code	d	P	L	l	l ₁	l ₃	d ₁	a		Δ						
.240	M12	1.75	110	18	50.0	48.0	9.0	7.0	4	+0.032					●	
.246	M16	2.00	110	20	58.0	56.0	12.0	9.0	4	+0.034					●	
.314	M20	2.50	140	25	72.0	70.0	16.0	12.0	4	+0.036					●	
.320	M24	3.00	160	30	74.0	72.0	18.0	14.5	5	+0.042					●	

Application



Material

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Wrought aluminium
alloys Si < 6%
hardened

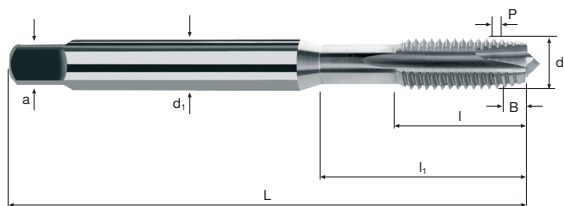
Stainless steel
[Cr-Ni/1.4301]



M	ø [mm]	P [mm]	V _c 1.5 x d			V _c 2.0 x d			V _c 3.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M 2	2.0	0.40	14	2230	892	12	1910	764	10	1590	636
M 2.5	2.5	0.45	14	1785	803	12	1530	689	10	1275	574
M 3	3.0	0.50	18	1910	955	15	1590	795	12	1275	638
M 4	4.0	0.70	18	1430	1001	15	1195	837	12	955	669
M 5	5.0	0.80	18	1145	916	15	955	764	12	765	612
M 6	6.0	1.00	18	955	955	15	795	795	12	635	635
M 8	8.0	1.25	18	715	894	15	595	744	12	475	594
M10	10.0	1.50	18	575	863	15	475	713	12	380	570
M 2	2.0	0.40	12	1910	764	8	1275	510	6	955	382
M 2.5	2.5	0.45	12	1530	689	8	1020	459	6	765	344
M 3	3.0	0.50	15	1590	795	10	1060	530	8	850	425
M 4	4.0	0.70	15	1195	837	10	795	557	8	635	445
M 5	5.0	0.80	15	955	764	10	635	508	8	510	408
M 6	6.0	1.00	15	795	795	10	530	530	8	425	425
M 8	8.0	1.25	15	595	744	10	400	500	8	320	400
M10	10.0	1.50	15	475	713	10	320	480	8	255	383
M 2	2.0	0.40	12	1910	764	10	1590	636	8	1275	510
M 2.5	2.5	0.45	12	1530	689	10	1275	574	8	1020	459
M 3	3.0	0.50	15	1590	795	12	1275	638	10	1060	530
M 4	4.0	0.70	15	1195	837	12	955	669	10	795	557
M 5	5.0	0.80	15	955	764	12	765	612	10	635	508
M 6	6.0	1.00	15	795	795	12	635	635	10	530	530
M 8	8.0	1.25	15	595	744	12	475	594	10	400	500
M10	10.0	1.50	15	475	713	12	380	570	10	320	480
M 2	2.0	0.40	4	635	254	3	475	190	2	320	128
M 2.5	2.5	0.45	4	510	230	3	380	171	2	255	115
M 3	3.0	0.50	5	530	265	4	425	213	3	320	160
M 4	4.0	0.70	5	400	280	4	320	224	3	240	168
M 5	5.0	0.80	5	320	256	4	255	204	3	190	152
M 6	6.0	1.00	5	265	265	4	210	210	3	160	160
M 8	8.0	1.25	5	200	250	4	160	200	3	120	150
M10	10.0	1.50	5	160	240	4	125	188	3	95	143



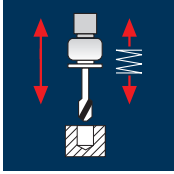
Form B



M

GG(G)
Aluminium
Copper235

Application



Material

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

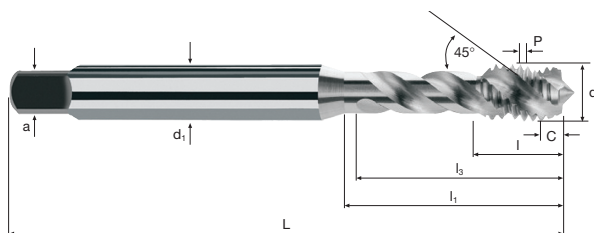
Wrought aluminium
alloys Si < 6%
hardened

Stainless steel
[Cr-Ni/1.4301]



M	ø [mm]	P [mm]	V _c 1.0 x d			V _c 1.5 x d			V _c 2.0 x d		
			n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]		n [min ⁻¹]	v _f [100%]	
M 2	2.0	0.40	11	1750	700	10	1590	636	8	1275	510
M 2.5	2.5	0.45	11	1400	630	10	1275	574	8	1020	459
M 3	3.0	0.50	14	1485	743	12	1275	638	10	1060	530
M 4	4.0	0.70	14	1115	781	12	955	669	10	795	557
M 5	5.0	0.80	14	890	712	12	765	612	10	635	508
M 6	6.0	1.00	14	745	745	12	635	635	10	530	530
M 8	8.0	1.25	14	555	694	12	475	594	10	400	500
M10	10.0	1.50	14	445	668	12	380	570	10	320	480
M 2	2.0	0.40	7	1115	446	6	955	382	5	795	318
M 2.5	2.5	0.45	7	890	401	6	765	344	5	635	286
M 3	3.0	0.50	9	955	478	8	850	425	7	745	373
M 4	4.0	0.70	9	715	500	8	635	445	7	555	389
M 5	5.0	0.80	9	575	460	8	510	408	7	445	356
M 6	6.0	1.00	9	475	475	8	425	425	7	370	370
M 8	8.0	1.25	9	360	450	8	320	400	7	280	350
M10	10.0	1.50	9	285	428	8	255	383	7	225	338
M 2	2.0	0.40	8	1275	510	6	955	382	5	795	318
M 2.5	2.5	0.45	8	1020	459	6	765	344	5	635	286
M 3	3.0	0.50	10	1060	530	8	850	425	6	635	318
M 4	4.0	0.70	10	795	557	8	635	445	6	475	333
M 5	5.0	0.80	10	635	508	8	510	408	6	380	304
M 6	6.0	1.00	10	530	530	8	425	425	6	320	320
M 8	8.0	1.25	10	400	500	8	320	400	6	240	300
M10	10.0	1.50	10	320	480	8	255	383	6	190	285
M 2	2.0	0.40	3	475	190	2	320	128	2	320	128
M 2.5	2.5	0.45	3	380	171	2	255	115	2	255	115
M 3	3.0	0.50	4	425	213	3	320	160	3	320	160
M 4	4.0	0.70	4	320	224	3	240	168	3	240	168
M 5	5.0	0.80	4	255	204	3	190	152	3	190	152
M 6	6.0	1.00	4	210	210	3	160	160	3	160	160
M 8	8.0	1.25	4	160	200	3	120	150	3	120	150
M10	10.0	1.50	4	125	188	3	95	143	3	95	143

Form C



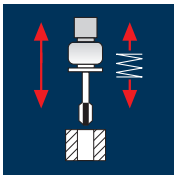
M

GG(G)
Aluminium
Copper

www.fraisa.com

Application

The diagram illustrates a mechanical system. A mass, represented by a grey rectangle, is connected to a fixed base (hatched rectangle) by a spring and a damper in parallel. The spring is represented by a coiled line, and the damper is represented by a piston-cylinder symbol. Red arrows indicate the displacement of the mass from its equilibrium position.



Material

Steel
< 500 N/mm²

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

[illegible]

Material

Wrought aluminium alloys Si < 6% hardened

Wrought aluminium alloys Si < 6% hardened

Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]

[illegible]



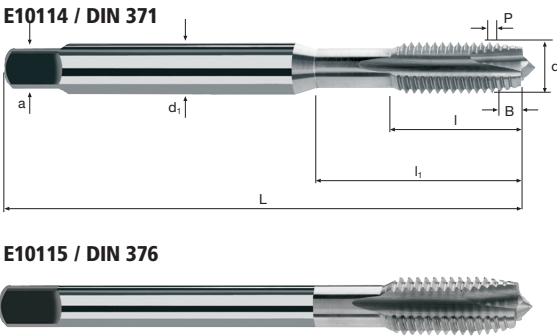
M

7G

HSS-E
Co5

DIN
371/376

Form B



Rm
< 850

Inox
Stainless

GG(G)
Aluminium
Copper

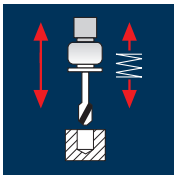
Example: Order-N°.										Article-N°.		ø-Code			
										E10114		.034			
ø Code	d	P	L	l	l1	d1	a		Δ						
.034	M 2	0.40	45	8	—	2.8	2.1	2	+0.030	●					
.040	M 2.5	0.45	50	9	—	2.8	2.1	2	+0.030	●					
.044	M 3	0.50	56	12	18.0	3.5	2.7	3	+0.032	●					
.058	M 4	0.70	63	13	21.0	4.5	3.4	3	+0.038	●					
.084	M 5	0.80	70	15	25.0	6.0	4.9	3	+0.040	●					
.088	M 6	1.00	80	17	30.0	6.0	4.9	3	+0.048	●					
.160	M 8	1.25	90	20	35.0	8.0	6.2	3	+0.050	●					
.174	M10	1.50	100	22	39.0	10.0	8.0	3	+0.056	●					

Example: Order-N°.										Article-N°.		ø-Code			
										E10115		.240			
ø Code	d	P	L	l	l1	d1	a		Δ						
.240	M12	1.75	110	24	40.0	9.0	7.0	3	+0.064	●					
.246	M16	2.00	110	27	40.0	12.0	9.0	3	+0.068	●					
.314	M20	2.50	140	32	50.0	16.0	12.0	4	+0.072	●					
.320	M24	3.00	160	34	60.0	18.0	14.5	4	+0.085	●					

Application



The diagram shows a mechanical assembly. A piston is connected to a rod, which is attached to a spring. The spring is connected to a base. Red arrows indicate the direction of movement: up and down for the piston, and up and down for the spring.



Material

Steel
< 500 N/mm²

Steel
< 500 N/mm²

Steel
500 - 850 N/mm²

Steel
500 - 850 N/mm²

[illegible]

Material

Wrought aluminium alloys Si < 6% hardened

Wrought aluminium alloys Si < 6% hardened

Stainless steel
[Cr-Ni/1.4301]



Stainless steel
[Cr-Ni/1.4301]

[illegible]



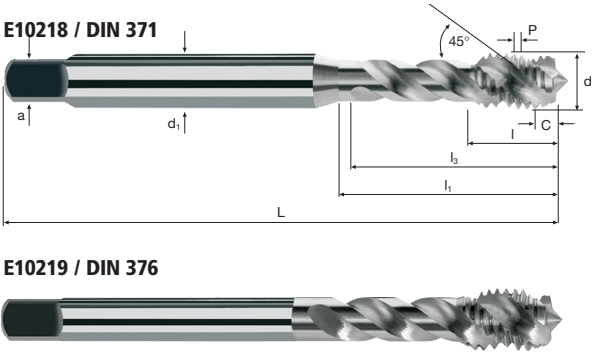
M

7G

HSS-E
Co5

DIN
371/376

X - P
Form C



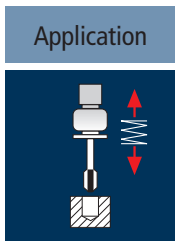
Rm
< 850

Inox
Stainless

GG(G)
Aluminium
Copper

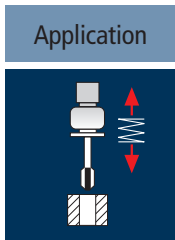
Example: Order-N°.											Article-N°.		ø-Code		E10218	
											E10218		.034			
ø Code	d	P	L	l	l ₁	l ₃	d ₁	a		Δ						
.034	M 2	0.40	45	8.0	—	10.5	2.8	2.1	3	+0.030	●					
.040	M 2.5	0.45	50	9.0	—	13.0	2.8	2.1	3	+0.030	●					
.044	M 3	0.50	56	4.0	18.0	16.0	3.5	2.7	3	+0.032	●					
.058	M 4	0.70	63	5.6	21.0	19.0	4.5	3.4	3	+0.038	●					
.084	M 5	0.80	70	6.4	25.0	23.0	6.0	4.9	3	+0.040	●					
.088	M 6	1.00	80	8.0	30.0	28.0	6.0	4.9	3	+0.048	●					
.160	M 8	1.25	90	10.0	35.0	33.0	8.0	6.2	3	+0.050	●					
.174	M10	1.50	100	12.0	39.0	37.0	10.0	8.0	3	+0.056	●					

Example: Order-N°.											Article-N°.		ø-Code		E10219	
											E10219		.240			
ø Code	d	P	L	l	l ₁	l ₃	d ₁	a		Δ						
.240	M12	1.75	110	14.0	50.0	48.0	9.0	7.0	3	+0.064	●					
.246	M16	2.00	110	16.0	58.0	56.0	12.0	9.0	4	+0.068	●					
.314	M20	2.50	140	20.0	72.0	70.0	16.0	12.0	4	+0.072	●					
.320	M24	3.00	160	24.0	74.0	72.0	18.0	14.5	4	+0.085	●					



Material
Nickel base alloys not hardened
Nickel base alloys not hardened
Nickel base alloys hardened
Nickel base alloys hardened

MJ	ø [mm]	P [mm]	v_c $1.0 \times d$	n [min ⁻¹]	v_f [100%]	v_c $1.5 \times d$	n [min ⁻¹]	v_f [100%]	
MJ 2	2.0	0.40	3	475	190	2	320	128	
MJ 2.5	2.5	0.45	3	380	171	2	255	115	
MJ 3	3.0	0.50	3	320	160	2	210	105	
MJ 4	4.0	0.70	3	240	168	2	160	112	
MJ 5	5.0	0.80	3	190	152	2	125	100	
MJ 6	6.0	1.00	3	160	160	2	105	105	
MJ 8	8.0	1.00	3	120	120	2	80	80	
MJ 8	8.0	1.25	3	120	150	2	80	100	
MJ 10	10.0	1.25	3	95	119	2	65	81	
MJ 10	10.0	1.50	3	95	143	2	65	98	
MJ 2	2.0	0.40	2	320	128	2	320	128	
MJ 2.5	2.5	0.45	2	255	115	2	255	115	
MJ 3	3.0	0.50	2	210	105	2	210	105	
MJ 4	4.0	0.70	2	160	112	2	160	112	
MJ 5	5.0	0.80	2	125	100	2	125	100	
MJ 6	6.0	1.00	2	105	105	2	105	105	
MJ 8	8.0	1.00	2	80	80	2	80	80	
MJ 8	8.0	1.25	2	80	100	2	80	100	
MJ 10	10.0	1.25	2	65	81	2	65	81	
MJ 10	10.0	1.50	2	65	98	2	65	98	



Material
Nickel base alloys not hardened
Nickel base alloys not hardened
Nickel base alloys hardened
Nickel base alloys hardened

MJ	ø [mm]	P [mm]	v_c $1.0 \times d$	n [min ⁻¹]	v_f [100%]	v_c $1.5 \times d$	n [min ⁻¹]	v_f [100%]	
MJ 2	2.0	0.40	3	475	190	2	320	128	
MJ 2.5	2.5	0.45	3	380	171	2	255	115	
MJ 3	3.0	0.50	3	320	160	2	210	105	
MJ 4	4.0	0.70	3	240	168	2	160	112	
MJ 5	5.0	0.80	3	190	152	2	125	100	
MJ 6	6.0	1.00	3	160	160	2	105	105	
MJ 8	8.0	1.00	3	120	120	2	80	80	
MJ 8	8.0	1.25	3	120	150	2	80	100	
MJ 10	10.0	1.25	3	95	119	2	65	81	
MJ 10	10.0	1.50	3	95	143	2	65	98	
MJ 2	2.0	0.40	2	320	128	2	320	128	
MJ 2.5	2.5	0.45	2	255	115	2	255	115	
MJ 3	3.0	0.50	2	210	105	2	210	105	
MJ 4	4.0	0.70	2	160	112	2	160	112	
MJ 5	5.0	0.80	2	125	100	2	125	100	
MJ 6	6.0	1.00	2	105	105	2	105	105	
MJ 8	8.0	1.00	2	80	80	2	80	80	
MJ 8	8.0	1.25	2	80	100	2	80	100	
MJ 10	10.0	1.25	2	65	81	2	65	81	
MJ 10	10.0	1.50	2	65	98	2	65	98	

