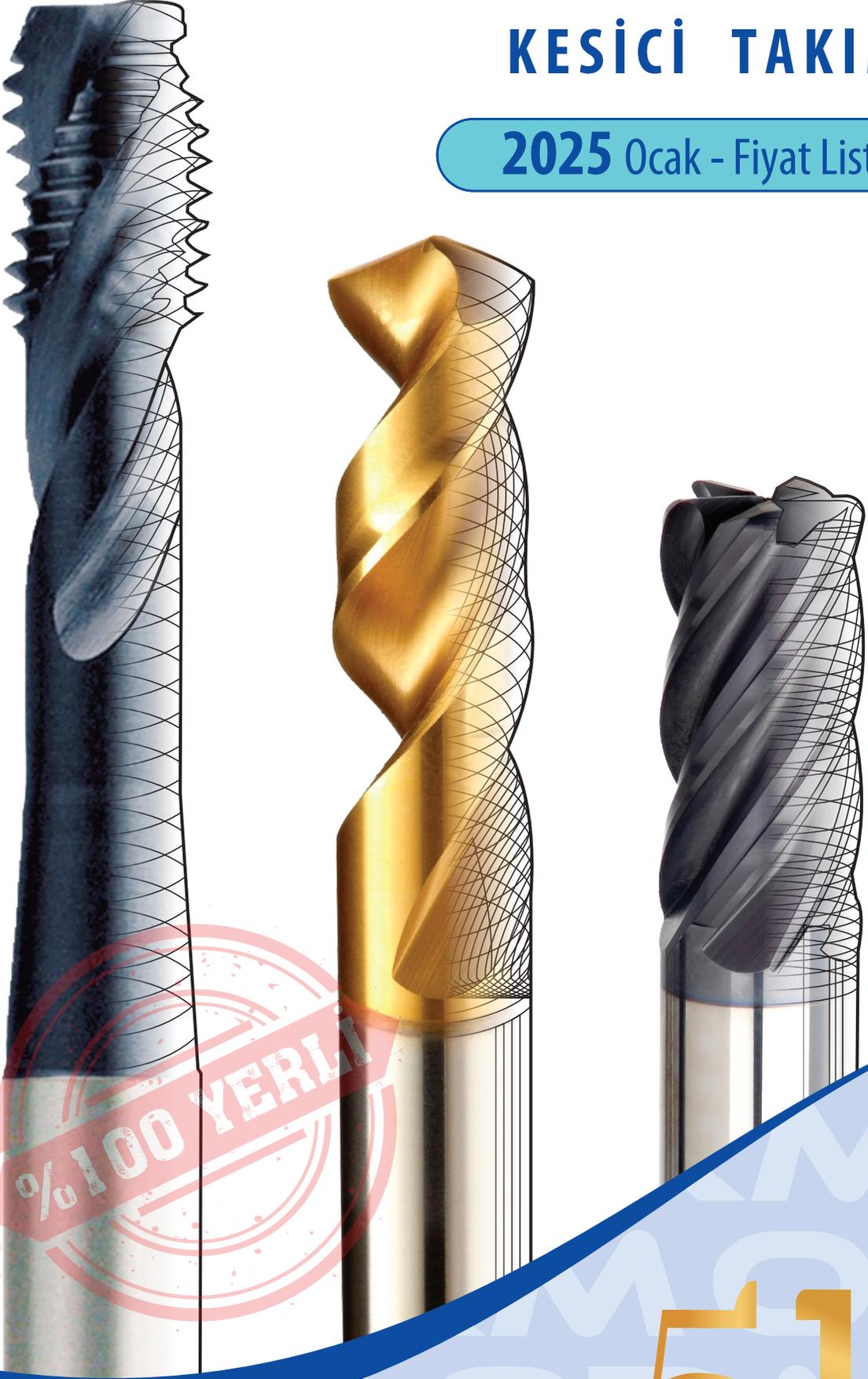


# ORM

## KESİCİ TAKIM

2025 Ocak - Fiyat Listesi

www.orm-tr.com



51. Yıl



**ORALSAN**  
MAKİNA TAKIM SANAYİ ve TİCARET A.Ş.





**Matkap Uçları**

Sayfa

5 - 24



**Kılavuzlar**

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**Frezeler**

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**Raybalar & Senkerler**

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73 - 76



**Karbürler**

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## FİRMAMIZ HAKKINDA / ABOUT THE COMPANY

**Firma / Company : ORALSAN MAKİNA TAKİM SAN. ve TİC. A.Ş.**

- Kuruluş / Establishment : 1974
- Üretime Geçiş / Starting Production : 1976

## Ürün Yelpazesi / Production Range

**HSS/HSS-E:** Matkap uçları, Kılavuzlar, Raybalar, Senkerler, Havşa frezeler, Frezeler, Torna kalemleri, Özel amaçlı takımlar  
**Karbür:** Matkap uçları, Raybalar, Frezeler, Özel amaçlı takımlar  
**HSS/HSS-E:** Twist drills, Taps, Reamers, Countersinks, End mills, Tool bits, Special tools.  
**Solid Carbide:** Twist drills, Reamers, End mills, Special tools.

## Fabrika / Factory

Kırşehir'de 5.000 m<sup>2</sup> kapalı, toplam 98.000 m<sup>2</sup> alan üzerine kurulmuş fabrikamız, tam teçhizatlı kalite laboratuvarı, tam otomatik ( robotlu ) Isıl İşlem tesisi ve modern makina parkuru ile donatılmıştır.  
Factory is located in Kırşehir and occupies 5.000 m<sup>2</sup> covered, 98.000 m<sup>2</sup> total area consisting of a fully equipped quality assurance laboratory, fully automated (with robot) heat treatment facility and modern machine park.

## Teknoloji / Technology

Türk standartları ve uluslararası standartlar doğrultusunda, taşlama teknolojisi ile üretim yapan firmamız, hammadde olarak yüksek hız çelikleri ( HSS 1.3343, 1.3243, 1.3247, 1.3207 ve MG-Co10 ) ve karbür malzeme kullanmaktadır.  
Technology is carried out according to Turkish and international standards and, is based on grinding method. As raw material high speed steels ( HSS 1.3343, 1.3243, 1.3247, 1.3207 and MG-Co10 ) and solid carbide material are used.

## Merkez Ofis / Head Office

İstanbulda bulunan Şirket merkezimiz , tecrübeli pazarlama ekibi ve etkin dağıtım kanalları ile müşterilerimize hizmet vermektedir.  
Head office is located in Istanbul and has an experienced marketing team with an efficient distribution network throughout Turkey, Europe as well as Middle East .



# Matkap Uçları



**MERMERLER**  
ŞİRKETLER GRUBU

**ORM**

## Silindirik saplı matkap ucu - TAŞLANMIŞ

DIN  
338

HSS



N

118°

27°-33°



ORM Katalog Sf : 14-15

Ürün Kodu	d mm	L1 mm	L2 mm	TL/Adet
M06100050	0,5	22	6	176,03
M06100060	0,6	24	7	183,46
M06100070	0,7	28	9	183,46
M06100080	0,8	30	10	183,46
M06100090	0,9	32	11	150,29
M06100100	1,0	34	12	69,96
M06100110	1,1	36	14	136,33
M06100120	1,2	38	16	136,33
M06100130	1,3	38	16	136,33
M06100140	1,4	40	18	136,33
M06100150	1,5	40	18	49,89
M06100160	1,6	43	20	104,81
M06100170	1,7	43	20	104,81
M06100180	1,8	46	22	104,81
M06100190	1,9	46	22	104,81
M06100200	2,0	49	24	47,39
M06100210	2,1	49	24	64,19
M06100220	2,2	53	27	64,19
M06100230	2,3	53	27	64,19
M06100240	2,4	57	30	64,19
M06100250	2,5	57	30	48,39
M06100260	2,6	57	30	71,88
M06100270	2,7	61	33	71,88
M06100280	2,8	61	33	71,88
M06100290	2,9	61	33	71,88
M06100300	3,0	61	33	51,75
M06100310	3,1	65	36	71,88
M06100320	3,2	65	36	68,36
M06100330	3,3	65	36	65,95
M06100340	3,4	70	39	79,56
M06100350	3,5	70	39	59,75
M06100360	3,6	70	39	79,56
M06100370	3,7	70	39	92,34
M06100380	3,8	75	43	92,34
M06100390	3,9	75	43	92,34
M06100400	4,0	75	43	72,14
M06100410	4,1	75	43	96,96
M06100420	4,2	75	43	79,72
M06100430	4,3	80	47	96,96
M06100440	4,4	80	47	96,96
M06100450	4,5	80	47	81,82
M06100460	4,6	80	47	96,96
M06100470	4,7	80	47	110,24
M06100480	4,8	86	52	110,24
M06100490	4,9	86	52	110,24

Ürün Kodu	d mm	L1 mm	L2 mm	TL/Adet
M06100500	5,0	86	52	91,95
M06100510	5,1	86	52	99,88
M06100520	5,2	86	52	99,88
M06100530	5,3	86	52	114,33
M06100540	5,4	93	57	141,07
M06100550	5,5	93	57	113,15
M06100560	5,6	93	57	141,07
M06100570	5,7	93	57	141,07
M06100580	5,8	93	57	141,07
M06100590	5,9	93	57	143,59
M06100600	6,0	93	57	119,92
M06100610	6,1	101	63	173,35
M06100620	6,2	101	63	173,35
M06100630	6,3	101	63	173,35
M06100640	6,4	101	63	180,78
M06100650	6,5	101	63	147,69
M06100660	6,6	101	63	191,90
M06100670	6,7	101	63	191,90
M06100680	6,8	109	69	191,83
M06100690	6,9	109	69	229,17
M06100700	7,0	109	69	175,01
M06100710	7,1	109	69	245,81
M06100720	7,2	109	69	245,81
M06100730	7,3	109	69	245,81
M06100740	7,4	109	69	245,81
M06100750	7,5	109	69	198,91
M06100760	7,6	117	75	270,05
M06100770	7,7	117	75	270,05
M06100780	7,8	117	75	270,05
M06100790	7,9	117	75	270,05
M06100800	8,0	117	75	221,16
M06100810	8,1	117	75	307,81
M06100820	8,2	117	75	307,81
M06100830	8,3	117	75	307,81
M06100840	8,4	117	75	307,81
M06100850	8,5	117	75	255,75
M06100860	8,6	125	81	394,99
M06100870	8,7	125	81	394,99
M06100880	8,8	125	81	394,99
M06100890	8,9	125	81	394,99
M06100900	9,0	125	81	284,93
M06100910	9,1	125	81	398,09
M06100920	9,2	125	81	398,09
M06100930	9,3	125	81	413,73
M06100940	9,4	125	81	413,73



## Silindirik saplı matkap ucu - TAŞLANMIŞ

DIN  
338

HSS

R

N

118°

27°-33°

Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M06100950	9,5	125	81	327,97
M06100960	9,6	133	87	440,31
M06100970	9,7	133	87	440,31
M06100980	9,8	133	87	468,12
M06100990	9,9	133	87	468,12
M06101000	10,0	133	87	352,03
M06101010	10,1	133	87	536,67
M06101020	10,2	133	87	478,57
M06101030	10,3	133	87	645,41
M06101040	10,4	133	87	645,41
M06101050	10,5	133	87	408,61
M06101060	10,6	133	87	663,86
M06101070	10,7	142	94	796,17
M06101080	10,8	142	94	692,20
M06101090	10,9	142	94	805,54
M06101100	11,0	142	94	478,57
M06101110	11,1	142	94	828,76
M06101120	11,2	142	94	833,80
M06101130	11,3	142	94	836,79
M06101140	11,4	142	94	838,13
M06101150	11,5	142	94	505,15
M06101160	11,6	142	94	836,79
M06101170	11,7	142	94	836,79
M06101180	11,8	142	94	836,79
M06101190	11,9	151	101	986,24
M06101200	12,0	151	101	554,54
M06101210	12,1	151	101	1.052,84
M06101220	12,2	151	101	1.052,84
M06101230	12,3	151	101	1.043,50
M06101240	12,4	151	101	1.043,50
M06101250	12,5	151	101	600,78
M06101260	12,6	151	101	1.079,50
M06101270	12,7	151	101	948,87
M06101280	12,8	151	101	1.043,50
M06101290	12,9	151	101	1.198,87
M06101300	13,0	151	101	641,21
M06101310	13,1	151	101	1.315,78
M06101320	13,2	151	101	1.315,78
M06101330	13,3	160	108	1.385,58
M06101340	13,4	160	108	1.385,58
M06101350	13,5	160	108	1.144,71
M06101360	13,6	160	108	1.423,11
M06101370	13,7	160	108	1.423,11
M06101380	13,8	160	108	1.423,11
M06101390	13,9	160	108	1.423,11

Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M06101400	14,0	160	108	1.212,91
M06101410	14,1	169	114	1.877,04
M06101420	14,2	169	114	1.877,04
M06101430	14,3	169	114	1.877,04
M06101440	14,4	169	114	1.877,04
M06101450	14,5	169	114	1.354,57
M06101460	14,6	169	114	1.891,00
M06101470	14,7	169	114	1.891,00
M06101480	14,8	169	114	1.891,00
M06101490	14,9	169	114	1.891,00
M06101500	15,0	169	114	1.416,99
M06101510	15,1	178	120	2.791,29
M06101520	15,2	178	120	2.663,60
M06101530	15,3	178	120	2.705,80
M06101540	15,4	178	120	2.705,80
M06101550	15,5	178	120	1.544,13
M06101560	15,6	178	120	2.825,64
M06101570	15,7	178	120	2.825,64
M06101580	15,8	178	120	2.578,11
M06101590	15,9	178	120	3.088,09
M06101600	16,0	178	120	1.668,83
M06101610	16,1	184	125	2.785,86
M06101620	16,2	184	125	2.928,38
M06101630	16,3	184	125	3.355,88
M06101640	16,4	184	125	3.355,88
M06101650	16,5	184	125	1.902,02
M06101700	17,0	184	125	2.034,07
M06101750	17,5	191	130	2.217,70
M06101800	18,0	191	130	2.351,25
M06101850	18,5	198	135	2.562,54
M06101900	19,0	198	135	2.767,65
M06101950	19,5	205	140	3.187,46
M06102000	20,0	205	140	3.314,92
M06102050	20,5	213	145	3.729,64
M06102100	21,0	213	145	3.779,29
M06102150	21,5	221	150	4.176,98
M06102200	22,0	221	150	4.260,30
M06102250	22,5	229	155	4.690,82
M06102300	23,0	229	155	4.724,33
M06102350	23,5	229	155	4.806,99
M06102400	24,0	236	160	5.254,49
M06102450	24,5	236	160	5.569,57
M06102500	25,0	236	160	5.817,79



ORM Katalog Sf: 14-15

## Silindirik saplı, split point matkap ucu - GOLD SERİ

DIN  
338HSS-E  
Co 5

W



Ürün Kodu	d mm	L1 mm	L2 mm	TL/Adet
M08200200	2,0	-	-	91,11
M08200250	2,5	57	30	93,37
M08200260	2,6	57	30	132,31
M08200270	2,7	61	33	132,31
M08200300	3,0	61	33	99,72
M08200320	3,2	65	36	132,31
M08200330	3,3	65	36	127,80
M08200340	3,4	70	39	147,61
M08200350	3,5	70	39	115,83
M08200380	3,8	75	43	170,41
M08200400	4,0	75	43	140,16
M08200420	4,2	75	43	155,30
M08200450	4,5	80	47	157,87
M08200500	5,0	86	52	178,52
M08200520	5,2	86	52	184,37
M08200550	5,5	93	57	218,57
M08200600	6,0	93	57	232,84
M08200650	6,5	101	63	286,35
M08200660	6,6	101	63	359,30
M08200680	6,8	109	69	375,02
M08200700	7,0	109	69	342,27
M08200750	7,5	109	69	388,82
M08200800	8,0	117	75	416,48
M08200820	8,2	117	75	561,31
M08200850	8,5	117	75	484,34
M08200860	8,6	125	81	715,53
M08200870	8,7	125	81	715,53
M08200900	9,0	125	81	542,76
M08200950	9,5	125	81	616,73
M08201000	10,0	133	87	663,13
M08201050	10,5	133	87	771,19
M08201100	11,0	142	94	900,40
M08201150	11,5	142	94	948,37
M08201200	12,0	151	101	1.048,59
M08201250	12,5	151	101	1.132,01
M08201300	13,0	151	101	1.206,06
M08201350	13,5	160	108	2.066,16
M08201400	14,0	160	108	2.186,03
M08201450	14,5	169	114	2.441,94
M08201500	15,0	169	114	2.558,03
M08201550	15,5	178	120	2.665,86
M08201600	16,0	178	120	2.926,20

ORM Katalog Sf : 18-19-20-21

## Silindirik saplı uzun helisel matkap ucu - TAŞLANMIŞ

DIN  
340

HSS

R

N

118°

27°-33°

Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
M25100100	1,0	56	33	-
M25100150	1,5	70	45	199,51
M25100200	2,0	85	56	135,72
M25100250	2,5	95	62	143,41
M25100300	3,0	100	66	143,41
M25100350	3,5	112	73	173,67
M25100400	4,0	119	78	192,06
M25100420	4,2	119	78	193,98
M25100450	4,5	126	82	214,97
M25100500	5,0	132	87	243,47
M25100550	5,5	139	91	278,90
M25100600	6,0	139	91	296,64
M25100650	6,5	148	97	327,55
M25100700	7,0	156	102	377,62
M25100750	7,5	156	102	450,25
M25100800	8,0	165	109	450,25
M25100850	8,5	165	109	527,56
M25100900	9,0	175	115	548,95
M25100950	9,5	175	115	657,93
M25101000	10,0	184	121	652,08
M25101050	10,5	184	121	932,08
M25101100	11,0	195	128	959,66
M25101150	11,5	195	128	1.074,67
M25101200	12,0	205	134	1.205,04
M25101250	12,5	205	134	1.205,04
M25101300	13,0	205	134	1.283,61
M25101350	13,5	214	140	1.451,95
M25101400	14,0	214	140	1.641,25
M25101450	14,5	220	144	1.909,47
M25101500	15,0	220	144	2.014,17
M25101550	15,5	227	149	2.544,33
M25101600	16,0	227	149	2.397,49
M25101650	16,5	235	154	3.440,22
M25101700	17,0	235	154	2.868,86
M25101750	17,5	241	158	3.727,99
M25101800	18,0	241	158	3.212,55
M25101850	18,5	247	162	4.333,85
M25101900	19,0	247	162	3.849,33
M25101950	19,5	254	166	4.788,78
M25102000	20,0	254	166	4.212,98



(\*) ORM Katalog Sf : 29  
(-) = Fiyat ve termin sorunuz.

## Mors konik saplı helisel matkap ucu - TAŞLANMIŞ

DIN  
345

HSS

HSS-E  
Co 5

R

N

118°

27°-33°



ORM Katalog Sf : 40-41

HSS		HSS-E Co 5				HSS		HSS-E Co 5	
Ürün Kodu	Ürün Kodu	d mm	L1 mm	L2 mm	k	TL/Adet	TL/Adet	TL/Adet	TL/Adet
M47100800	M47200800	8,0	156	75	1	1.089,05	1.700,93		
M47100850	M47200850	8,5	156	75	1	1.053,18	1.568,88		
M47100900	M47200900	9,0	162	81	1	960,15	1.430,22		
M47100950	M47200950	9,5	162	81	1	1.294,97	2.021,86		
M47101000	M47201000	10,0	168	87	1	1.086,61	1.621,02		
M47101050	M47201050	10,5	168	87	1	1.104,33	1.568,54		
M47101100	M47201100	11,0	175	94	1	1.133,66	1.609,74		
M47101150	M47201150	11,5	175	94	1	1.160,09	1.690,06		
M47101200	M47201200	12,0	182	101	1	1.183,65	1.604,99		
M47101250	M47201250	12,5	182	101	1	1.208,90	1.637,58		
M47101300	M47201300	13,0	182	101	1	1.240,41	1.681,96		
M47101350	M47201350	13,5	189	108	1	1.411,56	1.915,64		
M47101400	M47201400	14,0	189	108	1	1.583,92	2.148,92		
M47101450	M47201450	14,5	212	114	2	1.771,05	2.401,81		
M47101500	M47201500	15,0	212	114	2	1.794,79	2.435,35		
M47101550	M47201550	15,5	218	120	2	1.949,15	2.644,63		
M47101600	M47201600	16,0	218	120	2	2.014,44	2.735,82		
M47101650	M47201650	16,5	223	125	2	2.073,95	2.530,03		
M47101700	M47201700	17,0	223	125	2	2.133,94	2.895,60		
M47101750	M47201750	17,5	228	130	2	2.186,77	2.966,06		
M47101800	M47201800	18,0	228	130	2	2.296,51	3.116,50		
M47101850	M47201850	18,5	233	135	2	2.443,28	3.316,94		
M47101900	M47201900	19,0	233	135	2	2.625,58	3.563,50		
M47101950	M47201950	19,5	238	140	2	2.792,39	3.410,96		
M47102000	M47202000	20,0	238	140	2	2.806,28	3.810,15		
M47102050	M47202050	20,5	243	145	2	3.028,18	4.111,04		
M47102100	M47202100	21,0	243	145	2	3.070,21	4.167,77		
M47102150	M47202150	21,5	248	150	2	3.403,43	4.621,20		
M47102200	M47202200	22,0	248	150	2	3.473,15	4.715,30		
M47102250	M47202250	22,5	253	155	2	3.806,37	5.167,73		
M47102300	M47202300	23,0	253	155	2	3.847,99	5.224,47		
M47102350	M47202350	23,5	276	155	3	3.889,37	5.279,05		
M47102400	M47202400	24,0	281	160	3	4.264,73	5.788,14		
M47102450	M47202450	24,5	281	160	3	4.542,71	6.168,32		
M47102500	M47202500	25,0	281	160	3	4.911,96	6.669,30		
M47102550	M47202550	25,5	286	165	3	5.533,23	7.513,97		
M47102600	M47202600	26,0	286	165	3	5.778,77	7.846,87		
M47102650	M47202650	26,5	286	165	3	5.995,31	8.143,56		
M47102700	M47202700	27,0	291	170	3	6.342,17	8.612,36		
M47102750	M47202750	27,5	291	170	3	6.558,75	8.906,82		
M47102800	M47202800	28,0	291	170	3	6.761,33	9.178,45		
M47102850	M47202850	28,5	296	175	3	7.021,02	9.532,31		



## Mors konik saplı helisel matkap ucu - TAŞLANMIŞ

DIN  
345

HSS

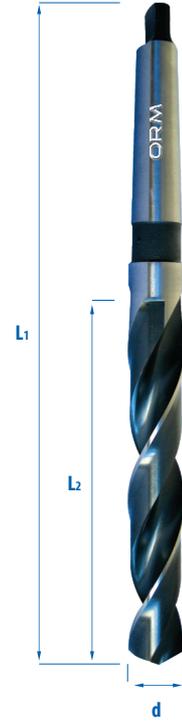
HSS-E  
Co 5



N



HSS		HSS-E Co 5				HSS		HSS-E Co 5	
Ürün Kodu	Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	k	TL/Adet (*)	TL/Adet (*)	TL/Adet (*)	TL/Adet (*)
M47102900	M47202900	29	296	175	3	7.281,02	9.889,04		
M47102950	M47202950	29.5	296	175	3	7.570,20	10.279,78		
M47103000	M47203000	30	296	175	3	7.830,07	10.633,49		
M47103050	M47203050	30.5	301	180	3	8.075,88	10.968,65		
M47103100	M47203100	31	301	180	3	8.422,48	11.434,67		
M47103150	M47203150	31.5	301	180	3	8.682,66	11.789,56		
M47103200	M47203200	32	334	185	4	9.014,88	12.242,47		
M47103250	M47203250	32.5	334	185	4	9.346,94	12.694,30		
M47103300	M47203300	33	334	185	4	9.693,88	13.162,76		
M47103350	M47203350	33.5	334	185	4	10.025,87	13.614,59		
M47103400	M47203400	34	339	190	4	10.416,10	14.146,01		
M47103450	M47203450	34.5	339	190	4	10.733,94	14.578,36		
M47103500	M47203500	35	339	190	4	11.138,06	15.129,49		
M47103550	M47203550	35.5	339	190	4	11.600,76	15.751,73		
M47103600	M47203600	36	344	195	4	12.106,06	16.440,34		
M47103650	M47203650	36.5	344	195	4	12.698,65	17.249,31		
M47103700	M47203700	37	344	195	4	12.885,96	17.500,47		
M47103750	M47203750	37.5	344	195	4	14.128,37	19.188,02		
M47103800	M47203800	38	349	200	4	14.504,39	19.695,34		
M47103850	M47203850	38.5	349	200	4	15.168,75	20.599,08		
M47103900	M47203900	39	349	200	4	15.847,85	21.525,91		
M47103950	M47203950	39.5	349	200	4	16.599,15	22.547,57		
M47104000	M47204000	40	349	200	4	17.277,89	23.467,44		
M47104050	M47204050	40.5	354	205	4	-	-		
M47104100	M47204100	41	354	205	4	18.306,01	-		
M47104150	M47204150	41.5	354	205	4	-	-		
M47104200	M47204200	42	354	205	4	20.646,65	-		
M47104250	M47204250	42.5	354	205	4	-	-		
M47104300	M47204300	43	359	210	4	22.234,82	-		
M47104350	M47204350	43.5	359	210	4	-	-		
M47104400	M47204400	44	359	210	4	23.238,01	-		
M47104450	M47204450	44.5	359	210	4	-	-		
M47104500	M47204500	45	359	210	4	26.245,64	-		
M47104550	M47204550	45.5	364	215	4	-	-		
M47104600	M47204600	46	364	215	4	-	-		
M47104650	M47204650	46.5	364	215	4	-	-		
M47104700	M47204700	47	364	215	4	-	-		
M47104750	M47204750	47.5	364	215	4	-	-		
M47104800	M47204800	48	369	220	4	-	-		
M47104850	M47204850	48.5	369	220	4	-	-		
M47104900	M47204900	49	369	220	4	-	-		
M47104950	M47204950	49.5	369	220	4	-	-		
M47105000	M47205000	50	369	220	4	-	-		



(\*) ORM Katalog Sf : 40-41  
(-) = Fiyat ve termin sorunuz.

## Mors konik saplı uzun helisel matkap ucu - TAŞLANMIŞ

DIN  
341

HSS



N

118°

27°-33°



(\*) ORM Katalog Sf : 44  
(-) = Fiyat ve termin sorunuz.

Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
M52100700	7,0	174	93	-
M52100750	7,5	174	93	-
M52100800	8,0	181	100	-
M52100850	8,5	181	100	-
M52100900	9,0	188	107	-
M52100950	9,5	188	107	-
M52101000	10,0	197	116	-
M52101050	10,5	197	116	-
M52101100	11,0	206	125	-
M52101150	11,5	206	125	-
M52101200	12,0	215	134	2.063,82
M52101250	12,5	215	134	2.103,61
M52101300	13,0	215	134	2.184,01
M52101350	13,5	223	142	2.412,52
M52101400	14,0	223	142	2.485,89
M52101450	14,5	245	147	3.005,61
M52101500	15,0	245	147	3.005,61
M52101600	16,0	251	153	3.192,24
M52101700	17,0	257	159	3.325,97
M52101800	18,0	263	165	3.739,77
M52101900	19,0	269	171	4.100,67
M52102000	20,0	275	177	4.639,75
M52102100	21,0	282	184	4.764,61
M52102200	22,0	289	191	5.403,75
M52102300	23,0	296	198	5.612,03
M52102400	24,0	327	206	6.792,59
M52102500	25,0	327	206	6.875,93
M52102600	26,0	335	214	7.987,37
M52102700	27,0	343	222	8.473,62
M52102800	28,0	343	222	9.321,04
M52102900	29,0	351	230	10.682,12
M52103000	30,0	351	230	10.960,04

## Silindirik saplı çok uzun helisel matkap ucu - TAŞLANMIŞ

DIN  
1869/1

HSS  
HSS-E



N

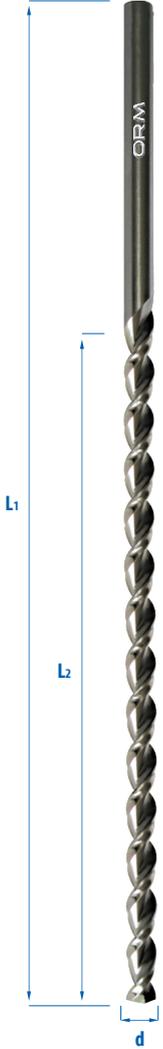


HSS		HSS-E Co 5			HSS		HSS-E Co 5	
Ürün Kodu	Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet	TL/Adet	TL/Adet	TL/Adet
M30100200	M30200200	2,0	125	85	488,28	697,48		
M30100250	M30200250	2,5	140	95	509,85	731,06		
M30100300	M30200300	3,0	150	100	570,94	818,42		
M30100350	M30200350	3,5	155	105	570,94	818,42		
M30100400	M30200400	4,0	175	120	612,98	876,65		
M30100450	M30200450	4,5	185	125	701,49	1.004,63		
M30100500	M30200500	5,0	195	135	708,76	1.021,27		
M30100550	M30200550	5,5	205	140	818,08	1.172,53		
M30100600	M30200600	6,0	205	140	858,28	1.229,79		
M30100650	M30200650	6,5	215	150	951,21	1.363,17		
M30100700	M30200700	7,0	225	155	1.076,33	1.541,88		
M30100750	M30200750	7,5	225	155	1.301,24	1.865,75		
M30100800	M30200800	8,0	240	165	1.392,59	1.997,64		
M30100850	M30200850	8,5	240	165	1.767,71	2.532,37		
M30100900	M30200900	9,0	250	175	1.950,33	2.806,28		
M30100950	M30200950	9,5	250	175	2.092,82	3.000,33		
M30101000	M30201000	10,0	265	185	2.106,28	3.028,10		
M30101050	M30201050	10,5	265	185	3.078,64	4.417,25		
M30101100	M30201100	11,0	280	195	3.732,58	5.348,17		
M30101150	M30201150	11,5	280	195	4.095,13	5.876,05		
M30101200	M30201200	12,0	295	205	4.124,39	5.903,73		
M30101250	M30201250	12,5	295	205	4.298,66	6.167,59		
M30101300	M30201300	13,0	295	205	4.342,54	6.237,29		



ORM Katalog Sf : 33

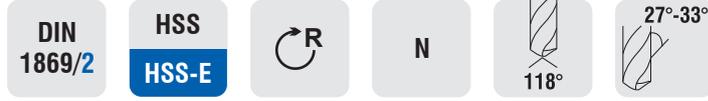
## Silindirik saplı çok uzun helisel matkap ucu - TAŞLANMIŞ

DIN  
1869/1HSS-E  
Co 5W  
GT 100

Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M32200200	2,0	125	85	804,62
M32200250	2,5	140	95	843,56
M32200300	3,0	150	100	944,36
M32200350	3,5	155	105	944,36
M32200400	4,0	175	120	1.011,64
M32200450	4,5	185	125	1.159,25
M32200500	5,0	195	135	1.178,38
M32200550	5,5	205	140	1.352,73
M32200600	6,0	205	140	1.419,01
M32200650	6,5	215	150	1.572,79
M32200700	7,0	225	155	1.779,15
M32200750	7,5	225	155	2.152,91
M32200800	8,0	240	165	2.304,96
M32200850	8,5	240	165	2.922,19
M32200900	9,0	250	175	3.237,79
M32200950	9,5	250	175	3.462,03
M32201000	10,0	265	185	3.494,28
M32201050	10,5	265	185	5.097,09
M32201100	11,0	280	195	6.171,00
M32201150	11,5	280	195	6.780,04
M32201200	12,0	295	205	6.811,90
M32201250	12,5	295	205	7.116,46
M32201300	13,0	295	205	7.196,86

ORM Katalog Sf : 34

## Silindirik saplı çok uzun helisel matkap ucu - TAŞLANMIŞ

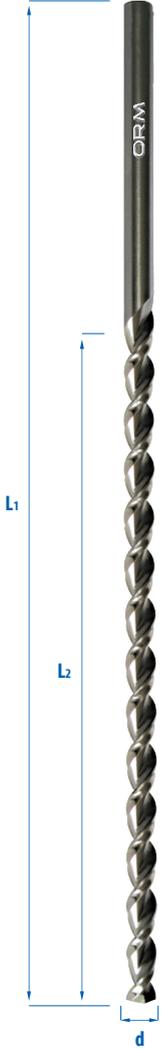


HSS		HSS-E Co 5			HSS		HSS-E Co 5	
Ürün Kodu	Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet	TL/Adet	TL/Adet	TL/Adet
M35100300	M35200300	3,0	190	130	687,27	893,29		
M35100350	M35200350	3,5	210	145	687,27	893,29		
M35100400	M35200400	4,0	220	150	731,98	951,63		
M35100450	M35200450	4,5	235	160	842,57	1.095,30		
M35100500	M35200500	5,0	245	170	852,77	1.108,60		
M35100550	M35200550	5,5	260	180	979,97	1.274,27		
M35100600	M35200600	6,0	275	190	1.031,45	1.340,71		
M35100650	M35200650	6,5	275	190	1.141,77	1.484,28		
M35100700	M35200700	7,0	290	200	1.285,29	1.671,09		
M35100750	M35200750	7,5	290	200	1.560,27	2.028,21		
M35100800	M35200800	8,0	305	210	1.668,76	2.169,63		
M35100850	M35200850	8,5	305	210	2.119,06	2.754,79		
M35100900	M35200900	9,0	320	220	2.509,30	3.262,20		
M35100950	M35200950	9,5	320	220	2.525,36	3.282,82		
M35101000	M35201000	10,0	340	235	3.703,40	4.814,26		
M35101050	M35201050	10,5	340	235	4.473,01	5.814,95		
M35101100	M35201100	11,0	365	250	4.908,47	6.381,04		
M35101150	M35201150	11,5	365	250	4.952,16	6.437,88		
M35101200	M35201200	12,0	375	260	5.169,99	6.720,79		
M35101250	M35201250	12,5	375	260	5.213,60	6.777,89		
M35101300	M35201300	13,0	375	260	5.735,15	7.455,71		



ORM Katalog Sf : 35

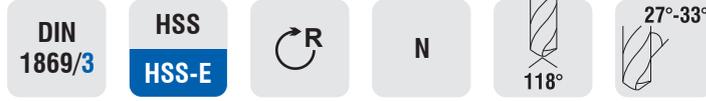
## Silindirik saplı çok uzun helisel matkap ucu - TAŞLANMIŞ

DIN  
1869/2HSS-E  
Co 5W  
GT 100

Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M37200300	3,0	190	130	1.030,88
M37200350	3,5	210	145	1.030,88
M37200400	4,0	220	150	1.097,97
M37200450	4,5	235	160	1.263,72
M37200500	5,0	245	170	1.279,17
M37200550	5,5	260	180	1.470,50
M37200600	6,0	275	190	1.546,97
M37200650	6,5	275	190	1.712,79
M37200700	7,0	290	200	1.928,10
M37200750	7,5	290	200	2.340,30
M37200800	8,0	305	210	2.503,21
M37200850	8,5	305	210	3.178,36
M37200900	9,0	320	220	3.764,25
M37200950	9,5	320	220	3.788,00
M37201000	10,0	340	235	5.555,03
M37201050	10,5	340	235	6.709,77
M37201100	11,0	365	250	7.362,84
M37201150	11,5	365	250	7.428,37
M37201200	12,0	375	260	7.755,00
M37201250	12,5	375	260	7.820,52
M37201300	13,0	375	260	8.602,76

ORM Katalog Sf : 36

## Silindirik saplı çok uzun helisel matkap ucu - TAŞLANMIŞ



HSS		HSS-E Co 5			HSS		HSS-E Co 5	
Ürün Kodu	Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet	TL/Adet	TL/Adet	TL/Adet
M40100350	M40200350	3,5	265	180	890,61	1.157,41		
M40100400	M40200400	4,0	280	190	952,73	1.238,66		
M40100450	M40200450	4,5	295	200	1.090,71	1.417,83		
M40100500	M40200500	5,0	315	210	1.108,10	1.440,66		
M40100550	M40200550	5,5	330	225	1.276,52	1.659,47		
M40100600	M40200600	6,0	330	225	1.339,37	1.741,21		
M40100650	M40200650	6,5	350	235	1.482,94	1.927,60		
M40100700	M40200700	7,0	370	250	1.676,10	2.179,00		
M40100800	M40200800	8,0	390	265	2.170,05	2.821,05		
M40100850	M40200850	8,5	390	265	2.753,77	3.579,88		
M40100900	M40200900	9,0	410	280	3.049,90	3.964,92		
M40100950	M40200950	9,5	410	280	3.267,97	4.248,10		
M40101000	M40201000	10,0	430	295	3.282,33	4.266,81		



ORM Katalog Sf: 37  
Stok ve termin sorunuz.

## Silindirik saplı çok uzun helisel matkap ucu - TAŞLANMIŞ

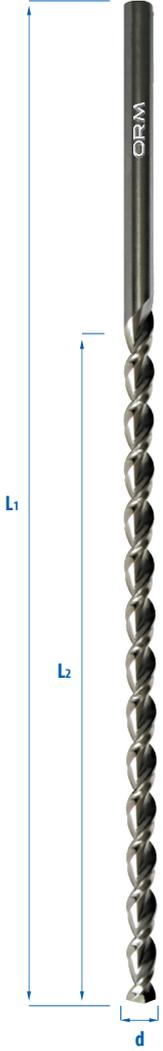
DIN  
1869/3HSS-E  
Co 5

R

W  
GT 100

130°

34°-40°



Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M42200350	3,5	265	180	1.389,18
M42200400	4,0	280	190	1.486,22
M42200450	4,5	295	200	1.701,58
M42200500	5,0	315	210	1.728,67
M42200550	5,5	330	225	1.991,37
M42200600	6,0	330	225	2.089,15
M42200650	6,5	350	235	2.313,49
M42200700	7,0	370	250	2.614,45
M42200800	8,0	390	265	3.385,06
M42200850	8,5	390	265	4.295,83
M42200900	9,0	410	280	4.757,76
M42200950	9,5	410	280	5.097,77
M42201000	10,0	430	295	5.120,42

ORM Katalog Sf : 38  
Stok ve termin sorunuz.

## Punta matkap ucu - A Formu



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)	
M63100050	0,50	3,15	20,0	0,80	-	KISA
M63100080	0,80	3,15	20,0	1,10	-	
M63100100	1,00	3,15	31,5	1,30	184,37	
M63100125	1,25	3,15	31,5	1,60	184,37	
M63100160	1,60	4,00	35,5	2,00	195,00	
M63100200	2,00	5,00	40,0	2,50	246,15	
M63100250	2,50	6,30	45,0	3,10	313,17	
M63100315	3,15	8,00	50,0	3,90	363,16	
M63100400	4,00	10,0	56,0	5,00	475,81	
M63100500	5,00	12,5	63,0	6,30	680,50	
M63100630	6,30	16,0	71,0	8,00	1.294,97	
M63100800	8,00	20,0	83,0	10,10	2.239,93	
M63101000	10,00	25,0	100,0	12,80	4.395,28	
M63100251	2,50	6,30	100,0	3,10	649,66	UZUN
M63100316	3,15	8,00	100,0	3,90	753,06	
M63100401	4,00	10,0	100,0	5,00	986,66	



(\*) ORM Katalog Sf : 47  
(-) = Fiyat ve termin sorunuz.

## Punta matkap ucu - A Formu



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)	
M63200050	0,50	3,15	20,0	0,80	-	KISA
M63200080	0,80	3,15	20,0	1,10	-	
M63200100	1,00	3,15	31,5	1,30	257,25	
M63200125	1,25	3,15	31,5	1,60	257,25	
M63200160	1,60	4,00	35,5	2,00	271,89	
M63200200	2,00	5,00	40,0	2,50	344,60	
M63200250	2,50	6,30	45,0	3,10	438,55	
M63200315	3,15	8,00	50,0	3,90	508,17	
M63200400	4,00	10,0	56,0	5,00	666,12	
M63200500	5,00	12,5	63,0	6,30	952,96	
M63200630	6,30	16,0	71,0	8,00	1.812,59	
M63200800	8,00	20,0	83,0	10,10	3.128,13	
M63201000	10,00	25,0	100,0	12,80	6.138,33	
M63200251	2,50	6,30	100,0	3,10	-	UZUN
M63200316	3,15	8,00	100,0	3,90	-	
M63200401	4,00	10,0	100,0	5,00	-	



(\*) ORM Katalog Sf : 47  
(-) = Fiyat ve termin sorunuz.

## Koruyucu havşalı punta matkap ucu - B formu

DIN  
333/B

HSS



N



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
M64100200	<b>2,00</b>	8,0	4,25	50,0	2,5	<b>520,87</b>
M64100250	<b>2,50</b>	10,0	5,30	56,0	3,1	<b>665,12</b>
M64100315	<b>3,15</b>	11,20	6,70	60,0	3,9	<b>667,72</b>
M64100400	<b>4,00</b>	14,00	8,5	67,0	5,0	<b>1.434,23</b>
M64100500	<b>5,00</b>	18,00	10,6	75,0	6,3	<b>1.817,52</b>
M64100630	<b>6,30</b>	20,00	13,2	80,0	8,0	<b>2.500,04</b>
M64100800	<b>8,00</b>	25,00	17,0	100,0	10,1	<b>3.967,10</b>
M64101000	<b>10,00</b>	31,50	21,2	125,0	12,8	-

(\*) ORM Katalog Sf : 48

(-) = Fiyat ve termin sorunuz.

## Koruyucu havşalı punta matkap ucu - B formu

DIN  
333/BHSS-E  
Co 5

N

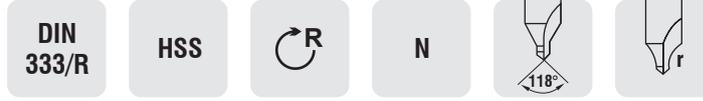


Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
M64200200	<b>2,00</b>	8,0	4,25	50,0	2,5	<b>883,76</b>
M64200250	<b>2,50</b>	10,0	5,30	56,0	3,1	<b>1.126,08</b>
M64200315	<b>3,15</b>	11,20	6,70	60,0	3,9	<b>1.163,76</b>
M64200400	<b>4,00</b>	14,00	8,5	67,0	5,0	<b>2.438,68</b>
M64200500	<b>5,00</b>	18,00	10,6	75,0	6,3	<b>3.094,96</b>
M64200630	<b>6,30</b>	20,00	13,2	80,0	8,0	<b>4.258,38</b>
M64200800	<b>8,00</b>	25,00	17,0	100,0	10,1	<b>6.734,25</b>
M64201000	<b>10,00</b>	31,50	21,2	125,0	12,8	-

(\*) ORM Katalog Sf : 48

(-) = Fiyat ve termin sorunuz.

## Radiuslu punta matkap ucu - R Formu



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
M65100200	2,00	5	40	5,3	343,35
M65100250	2,50	6,3	45	6,7	441,38
M65100315	3,15	8	50	8,5	507,49
M65100400	4,00	10	56	10,6	951,47
M65100500	5,00	12,5	63	13,2	1.013,74
M65100630	6,30	16	71	17	1.741,47
M65100800	8,00	20	80	21,2	-
M65101000	10,00	25	100	26,5	-



(\*) ORM Katalog Sf: 49  
(-) = Fiyat ve termin sorunuz.

## Radiuslu punta matkap ucu - R Formu



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
M65200200	2,00	5	40	5,3	489,35
M65200250	2,50	6,3	45	6,7	537,43
M65200315	3,15	8	50	8,5	680,42
M65200400	4,00	10	56	10,6	1.168,20
M65200500	5,00	12,5	63	13,2	1.453,78
M65200630	6,30	16	71	17	2.516,07
M65200800	8,00	20	80	21,2	-
M65201000	10,00	25	100	26,5	-



(\*) ORM Katalog Sf: 49  
(-) = Fiyat ve termin sorunuz.

Silindirik saplı çok kısa helisel matkap ucu - **TAŞLANMIŞ**DIN  
1897

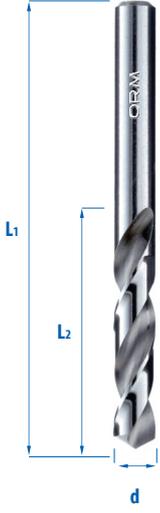
HSS



N

118°

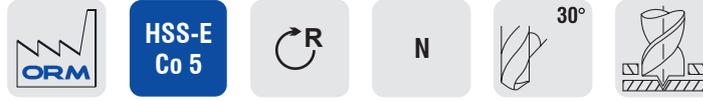
27°-33°



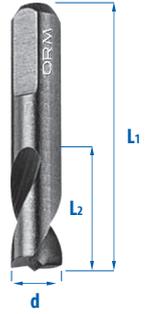
Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M01100200	2,0	38	12	47,81
M01100250	2,5	43	14	52,33
M01100300	3,0	46	16	56,58
M01100350	3,5	52	20	63,85
M01100400	4,0	55	22	73,98
M01100450	4,5	58	24	85,76
M01100500	5,0	62	26	96,96
M01100550	5,5	66	28	118,35
M01100600	6,0	66	28	126,30
M01100650	6,5	70	31	155,72
M01100700	7,0	74	34	177,94
M01100750	7,5	74	34	211,61
M01100800	8,0	79	37	220,40

ORM Katalog Sf : 10

## Punta yeri çürütme matkap ucu, havalı el matkabı için - KISA



Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M45200800	8,0	40	18,5	650,50
M45200801	8,0	44	18,5	656,01



ORM Katalog Sf: 39  
Stok ve termin sorunuz.

## Çift taraflı matkap ucu - TAŞLANMIŞ



Ürün Kodu	d mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
M04100200	2,0	38	9	-
M04100250	2,5	43	10	-
M04100300	3,0	46	11	-
M04100310	3,1	49	12	-
M04100320	3,2	49	12	-
M04100330	3,3	49	12	-
M04100340	3,4	52	14	-
M04100350	3,5	52	14	-
M04100400	4,0	55	14	-
M04100410	4,1	55	14	-
M04100420	4,2	55	14	-
M04100450	4,5	58	16	-
M04100500	5,0	62	18	-
M04100510	5,1	62	18	-
M04100520	5,2	62	18	-
M04100550	5,5	66	19	-
M04100580	5,8	66	19	-
M04100600	6,0	66	19	-
M04100620	6,2	70	21	-
M04100650	6,5	70	21	-
M04100680	6,8	74	24	-
M04100700	7,0	74	24	-
M04100800	8,0	79	25	-
M04100900	9,0	84	25	-
M04101000	10,0	89	28	-



(\*) ORM Katalog Sf: 11  
(-) = Fiyat ve termin sorunuz.

## Kademeli sac delme matkap ucu - HELİS KANALLI



HSS



N



Ürün Kodu	Nr	mm	d mm	L mm	Çap Kademe Sayısı	TL/Adet
M70100001	1	4-12	6	65	5	1.601,63
M70100002	2	4-20	8	75	9	2.535,96
M70100003	3	4-30	10	100	14	3.550,46
M70100004	4	4-39	10	107	13	5.205,41

ORM Katalog Sf : 52  
Stok ve termin sorunuz.

## Konik sac delme matkap ucu



HSS



N



Ürün Kodu	Nr	mm	d mm	L mm	TL/Adet (*)
M71100001	1	3-14	6	58	-
M71100002	2	5-20	8	71	-
M71100003	3	5-31	9	103	-
M71100004	4	16-30,5	9	76	-
M71100005	5	24-40	10	89	-

(\*) ORM Katalog Sf : 52  
(-) = Fiyat ve termin sorunuz.

# Kılavuzlar

**ORM**



**MERMERLER**  
ŞİRKETLER GRUBU

## Üç parçalı takım el kılavuzları - METRİK NORMAL VİDA



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Takım (*)
K01100200	M 2	0,4	36	8	2,8	-
K01100250	M 2,5	0,45	40	9	2,8	-
K01100300	M 3	0,5	40	11	3,5	1.022,19
K01100350	M 3,5	0,6	40	11	4	1.420,93
K01100400	M 4	0,7	45	13	4,5	949,13
K01100450	M 4,5	0,75	50	16	6	1.572,90
K01100500	M 5	0,8	50	16	6	965,09
K01100600	M 6	1	50	19	6	1.018,75
K01100700	M 7	1	56	19	6	1.399,70
K01100800	M 8	1,25	56	22	6	1.124,06
K01100900	M 9	1,25	63	22	7	1.953,35
K01101000	M 10	1,5	70	24	7	1.520,39
K01101100	M 11	1,5	70	24	8	2.577,50
K01101200	M 12	1,75	75	29	9	2.041,60
K01101400	M 14	2	80	30	11	2.416,77
K01101600	M 16	2	80	32	12	2.926,70
K01101800	M 18	2,5	95	40	14	4.205,48
K01102000	M 20	2,5	95	40	16	4.730,76
K01102200	M 22	2,5	100	40	18	6.293,79
K01102400	M 24	3	110	50	18	7.444,27
K01102700	M 27	3	110	50	20	12.302,74
K01103000	M 30	3,5	125	56	22	15.300,64
K01103300	M 33	3,5	125	56	25	18.809,32
K01103600	M 36	4	150	63	28	22.076,93

(\*) ORM Katalog Sf : 81-82  
 (-) = Fiyat ve termin sorunuz.

## Metrik normal vidalı kısa saplı - SON KILAVUZ

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K01100301	M 3	0,5	40	11	3,5	424,09
K01100401	M 4	0,7	45	13	4,5	393,76
K01100501	M 5	0,8	50	16	6	399,00
K01100601	M 6	1	50	19	6	420,92
K01100801	M 8	1,25	56	22	6	465,13
K01101001	M 10	1,5	70	24	7	629,09
K01101201	M 12	1,75	75	29	9	844,48

## Üç parçalı takım el kılavuzları - METRİK NORMAL VİDA

DIN  
352

HSS-E  
Co 5



M  
6H



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Takım (*)
K01200200	M 2	0,4	36	8	2,8	-
-	M 2,5	0,45	40	9	2,8	-
K01200300	M 3	0,5	40	11	3,5	1.178,56
-	M 3,5	0,6	40	11	4	-
K01200400	M 4	0,7	45	13	4,5	1.178,56
-	M 4,5	0,75	50	16	6	-
K01200500	M 5	0,8	50	16	6	1.198,11
K01200600	M 6	1	50	19	6	1.260,46
-	M 7	1	56	19	6	-
K01200800	M 8	1,25	56	22	6	1.393,53
-	M 9	1,25	63	22	7	-
K01201000	M 10	1,5	70	24	7	1.881,29
K01201100	M 11	1,5	70	24	8	-
K01201200	M 12	1,75	75	29	9	2.571,07
K01201400	M 14	2	80	30	11	3.039,12
K01201600	M 16	2	80	32	12	3.661,96
K01201800	M 18	2,5	95	40	14	-
K01202000	M 20	2,5	95	40	16	-
K01202200	M 22	2,5	100	40	18	-
K01202400	M 24	3	110	50	18	-
K01202700	M 27	3	110	50	20	-
K01203000	M 30	3,5	125	56	22	-
-	M 33	3,5	125	56	25	-
-	M 36	4	150	63	28	-



(\*) ORM Katalog Sf : 81-82  
(-) = Fiyat ve termin sorunuz.

## Metrik normal vidalı kısa saplı - SON KILAVUZ

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K01200301	M 3	0,5	40	11	3,5	551,28
K01200401	M 4	0,7	45	13	4,5	511,92
K01200501	M 5	0,8	50	16	6	518,53
K01200601	M 6	1	50	19	6	547,45
K01200801	M 8	1,25	56	22	6	604,95
K01201001	M 10	1,5	70	24	7	817,74
K01201201	M 12	1,75	75	29	9	1.097,82

## İki parçalı takım el kılavuzları - METRİK İNCE VİDA



(\*) ORM Katalog Sf : 87  
UNF sf:91

(-) = Fiyat ve termin sorunuz.

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Takım (*)
K04100300	M 3	0,35	40	9	-	-
K04100400	M 4	0,5	45	10	4,5	-
K04100500	M 5	0,5	50	12	6	-
K04100600	M 6	0,5	50	14	6	-
K04100601	M 6	0,75	50	14	6	1.556,18
K04100801	M 8	0,75	50	19	6	1.916,82
K04100802	M 8	1	56	22	6	1.643,01
K04101002	M 10	1	63	20	7	1.872,02
K04101003	M 10	1,25	63	24	7	2.261,74
K04101202	M 12	1	70	22	9	2.184,35
K04101203	M 12	1,25	70	22	9	2.574,17
K04101204	M 12	1,5	70	22	9	2.026,56
K04101402	M 14	1	70	22	11	3.047,57
K04101403	M 14	1,25	70	22	11	2.883,74
K04101404	M 14	1,5	70	22	11	2.574,17
K04101602	M 16	1	70	22	12	3.449,59
K04101604	M 16	1,5	70	22	12	2.883,74
K04101804	M 18	1,5	80	22	14	3.604,36
K04102004	M 20	1,5	80	22	16	4.006,54
K04102005	M 20	2	80	22	16	5.475,97
K04102204	M 22	1,5	80	22	18	5.831,85
K04102404	M 24	1,5	90	22	18	6.636,29
K04103004	M 30	1,5	90	22	22	-

## İki parçalı takım el kılavuzları - UNF vida

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Takım
K07100019	UNF 1/4"	28	50	12	6	1.290,38
K07100020	UNF 5/16"	24	56	14	6	1.463,57
K07100021	UNF 3/8"	24	63	16	7	1.676,86
K07100022	UNF 7/16"	20	63	22	8	2.158,03
K07100023	UNF 1/2"	20	70	20	9	2.261,74
K07100024	UNF 9/16"	18	70	20	11	3.202,26
K07100025	UNF 5/8"	18	70	22	12	3.372,10
K07100027	UNF 3/4"	16	80	22	14	4.578,98
K07100029	UNF 7/8"	14	80	22	18	6.326,72
K07100031	UNF 1"	12	90	22	18	8.461,50

## Üç parçalı takım el kılavuzları - WHITWORTH VİDA



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Takım (*)
K02100003	W 1/8"	40	40	11	3,5	1.463,57
K02100004	W 5/32"	32	45	13	4,5	1.733,94
K02100005	W 3/16"	24	50	16	6	1.556,18
K02100006	W 7/32"	24	50	16	6	1.885,72
K02100007	W 1/4"	20	50	19	6	1.605,99
K02100008	W 5/16"	18	56	22	6	-
K02100009	W 3/8"	16	70	24	7	-
K02100010	W 7/16"	14	70	24	8	2.649,80
K02100011	W 1/2"	12	75	29	9	3.202,26
K02100012	W 9/16"	12	80	30	11	4.145,70
K02100013	W 5/8"	11	80	32	12	4.702,68
K02100015	W 3/4"	10	95	40	14	6.527,81
K02100017	W 7/8"	9	100	40	18	-
K02100019	W 1"	8	110	50	20	-
K02100020	W 1 1/8"	7	125	56	22	-
K02100021	W 1 1/4"	7	125	56	25	-
K02100023	W 1 1/2"	6	150	63	32	-
K02100025	W 1 3/4"	5	160	70	36	-



(\*) ORM Katalog Sf : 83  
(-) = Fiyat ve termin sorunuz.



## İki parçalı takım el kılavuzları - WHITWORTH BORU VİDA

DIN  
5157

HSS



G  
BSP



İKİLİ		SON		İKİLİ		SON		
Ürün Kodu	Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Takım (*)	TL/Adet (*)
K08100003	K08100031	G 1/8"	28	63	18	7	2.102,87	-
K08100007	K08100071	G 1/4"	19	63	20	11	2.781,11	-
K08100009	K08100091	G 3/8"	19	70	20	12	3.187,80	-
K08100011	K08100111	G 1/2"	14	80	22	16	4.283,86	-
K08100015	K08100151	G 3/4"	14	100	28	20	6.675,42	-
K08100019	K08100191	G 1"	11	110	32	25	11.459,00	-
K08100021	-	G 1 1/4"	11	125	32	32	-	-
K08100022	-	G 1 3/8"	11	140	32	36	-	-
K08100023	-	G 1 1/2"	11	140	36	36	-	-
K08100025	-	G 1 3/4"	11	160	36	36	-	-
K08100027	-	G 2"	11	160	36	36	-	-



(\*) ORM Katalog Sf : 93  
(-) = Fiyat ve termin sorunuz.



## Kısa saplı 1/16 konik boru kılavuzu - NPT vida

HSS



NPT



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)
K11100003	NPT 1/8"	27	54	19	7	2.477,05
K11100007	NPT 1/4"	18	62	27	11	3.174,68
K11100009	NPT 3/8"	18	65	27	12	3.722,71
K11100011	NPT 1/2"	14	80	35	16	5.350,58
K11100015	NPT 3/4"	14	83	35	20	7.010,39
K11100019	NPT 1"	11 1/2	95	45	25	-
K11100021	NPT 1 1/4"	11 1/2	101	45	32	-
K11100023	NPT 1 1/2"	11 1/2	108	45	36	-
K11100027	NPT 2"	11 1/2	115	45	45	-



(\*) ORM Katalog Sf : 96  
(-) = Fiyat ve termin sorunuz.

## Makina kılavuzu, metrik normal vida - DÜZ KANAL



DIN  
371-376

HSS-E  
Co 5



M  
6H



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)
K15200300	M 3	0,5	56	9	3,5	639,64
K15200350	M 3,5	0,6	56	11	4,0	-
K15200400	M 4	0,7	63	12	4,5	659,35
K15200500	M 5	0,8	70	13	6,0	659,35
K15200600	M 6	1,0	80	15	6,0	713,61
K15200800	M 8	1,25	90	18	8,0	804,54
K15201000	M 10	1,5	100	20	10,0	950,71
K15201200	M 12	1,75	110	23	9,0	1.303,08
K15201400	M 14	2,0	110	25	11,0	1.716,31
K15201600	M 16	2,0	110	28	12,0	1.943,64
K15201800	M 18	2,5	125	30	14,0	2.825,91
K15202000	M 20	2,5	140	30	16,0	2.912,50
K15202200	M 22	2,5	140	32	18,0	4.162,76
K15202400	M 24	3,0	160	36	18,0	3.977,96
K15202700	M 27	3,0	160	36	20,0	5.270,94
K15203000	M 30	3,50	180	45	22,0	6.393,00

(\*) ORM Katalog Sf : 97

(-) = Fiyat ve termin sorunuz.

M 10' a kadar DIN 371 M 12' den sonrası DIN 376

## Makina kılavuzu, metrik normal vida - DÜZ KANAL



DIN  
371-376

HSS-E  
Co 5



M  
6H



TIN		TiCN		TIN			TiCN	
Ürün Kodu	Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)	TL/Adet (*)
K15210300	K15220300	M 3	0,5	56	9	3,5	948,03	1.090,47
K15210350	K15220350	M 3,5	0,6	56	11	4,0	-	-
K15210400	K15220400	M 4	0,7	63	12	4,5	969,68	1.115,37
K15210500	K15220500	M 5	0,8	70	13	6,0	969,68	1.115,37
K15210600	K15220600	M 6	1,0	80	15	6,0	1.032,37	1.187,17
K15210800	K15220800	M 8	1,25	90	18	8,0	1.258,05	1.446,75
K15211000	K15221000	M 10	1,5	100	20	10,0	1.353,07	1.556,26
K15211202	K15221202	M 12	1,75	110	23	9,0	-	-
K15211400	K15221400	M 14	2,0	110	25	11,0	-	-
K15211600	K15221600	M 16	2,0	110	28	12,0	-	-
K15211800	K15221800	M 18	2,5	125	30	14,0	-	-
K15212000	K15222000	M 20	2,5	140	30	16,0	-	-
K15212200	K15222200	M 22	2,5	140	32	18,0	-	-
K15212400	K15222400	M 24	3,0	160	36	18,0	-	-
K15212700	K15222700	M 27	3,0	160	36	20,0	-	-
K15213000	K15223000	M 30	3,50	180	45	22,0	-	-

(\*) ORM Katalog Sf : 97

(-) = Fiyat ve termin sorunuz.

M 10' a kadar DIN 371 M 12' den sonrası DIN 376

## Makina kılavuzu, metrik normal vida - EĞİK AĞIZ BİLEME



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)
K16200300	M 3	0,5	56	9	3,5	700,57
K16200350	M 3,5	0,6	56	11	4,0	-
K16200400	M 4	0,7	63	12	4,5	724,98
K16200500	M 5	0,8	70	13	6,0	724,98
K16200600	M 6	1,0	80	15	6,0	782,97
K16200800	M 8	1,25	90	18	8,0	885,29
K16201000	M 10	1,5	100	20	10,0	1.044,49
K16201200	M 12	1,75	110	23	9,0	1.261,64
K16201400	M 14	2,0	110	25	11,0	1.886,64
K16201600	M 16	2,0	110	28	12,0	2.139,79
K16201800	M 18	2,5	125	30	14,0	3.111,68
K16202000	M 20	2,5	140	30	16,0	3.210,87
K16202200	M 22	2,5	140	32	18,0	-
K16202400	M 24	3,0	160	36	18,0	4.390,17
K16202700	M 27	3,0	160	36	20,0	-
K16203000	M 30	3,50	180	45	22,0	-

M 10' a kadar DIN 371 M 12' den sonrası DIN 376



(\*) ORM Katalog Sf : 98  
(-) = Fiyat ve termin sorunuz.

## Makina kılavuzu, metrik normal vida - EĞİK AĞIZ BİLEME



TIN	TiCN	Ürün Kodu	Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)	TL/Adet (*)
TIN	TiCN	K16210300	K16220300	M 3	0,5	56	9	3,5	-	-
TIN	TiCN	K16210350	K16220350	M 3,5	0,6	56	11	4,0	-	-
TIN	TiCN	K16210400	K16220400	M 4	0,7	63	12	4,5	1.041,48	1.197,69
TIN	TiCN	K16210500	K16220500	M 5	0,8	70	13	6,0	1.041,48	1.197,69
TIN	TiCN	K16210600	K16220600	M 6	1,0	80	15	6,0	1.105,16	1.270,99
TIN	TiCN	K16210800	K16220800	M 8	1,25	90	18	8,0	1.299,41	1.494,33
TIN	TiCN	K16211000	K16221000	M 10	1,5	100	20	10,0	1.549,65	1.781,99
TIN	TiCN	K16211200	K16221200	M 12	1,75	110	23	9,0	-	-
TIN	TiCN	K16211400	K16221400	M 14	2,0	110	25	11,0	-	-
TIN	TiCN	K16211600	K16221600	M 16	2,0	110	28	12,0	-	-
TIN	TiCN	K16211800	K16221800	M 18	2,5	125	30	14,0	-	-
TIN	TiCN	K16212000	K16222000	M 20	2,5	140	30	16,0	-	-
TIN	TiCN	K16212200	K16222200	M 22	2,5	140	32	18,0	-	-
TIN	TiCN	K16212400	K16222400	M 24	3,0	160	36	18,0	-	-
TIN	TiCN	K16212700	K16222700	M 27	3,0	160	36	20,0	-	-
TIN	TiCN	K16213000	K16223000	M 30	3,50	180	45	22,0	-	-

M 10' a kadar DIN 371 M 12' den sonrası DIN 376



(\*) ORM Katalog Sf : 98  
(-) = Fiyat ve termin sorunuz.

## Makina kılavuzu, metrik normal vida - HELİS KANALLI



DIN  
371-376

HSS-E  
Co 5



M  
6H



ORM Katalog Sf : 99

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K17200300	M 3	0,5	56	9	3,5	799,11
K17200400	M 4	0,7	63	12	4,5	824,43
K17200500	M 5	0,8	70	13	6,0	824,43
K17200600	M 6	1,0	80	15	6,0	892,45
K17200800	M 8	1,25	90	13	8,0	1.008,39
K17201000	M 10	1,5	100	15	10,0	1.187,90
K17201201	M 12	1,75	110	18	9,0	1.557,41
K17201400	M 14	2,0	110	18	11,0	2.146,75
K17201600	M 16	2,0	110	20	12,0	2.435,67
K17201800	M 18	2,5	125	22	14,0	3.543,01
K17202000	M 20	2,5	140	22	16,0	3.646,98
K17202200	M 22	2,5	140	24	18,0	5.218,38
K17202400	M 24	3,0	160	28	18,0	4.995,64
K17202700	M 27	3,0	160	36	20,0	7.044,51
K17203000	M 30	3,50	180	40	22,0	8.004,92

M 10'a kadar DIN 371 M 12' den sonrası DIN 376

## Makina kılavuzu, metrik normal vida - HELİS KANALLI



DIN  
371-376

HSS-E  
Co 5



M  
6H



TIN		TiCN		TIN			TiCN	
Ürün Kodu	Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)	TL/Adet (*)
K17210300	K17220300	M 3	0,5	56	9	3,5	1.086,27	1.249,10
K17210400	K17220400	M 4	0,7	63	12	4,5	1.112,70	1.279,59
K17210500	K17220500	M 5	0,8	70	13	6,0	1.112,70	1.279,59
K17210600	K17220600	M 6	1,0	80	15	6,0	1.184,15	1.362,02
K17210800	K17220800	M 8	1,25	90	13	8,0	1.429,80	1.644,43
K17211000	K17221000	M 10	1,5	100	15	10,0	1.618,00	1.861,05
K17211201	K17221201	M 12	1,75	110	18	9,0	-	-
K17211400	K17221400	M 14	2,0	110	18	11,0	-	-
K17211600	K17221600	M 16	2,0	110	20	12,0	-	-
K17211800	K17221800	M 18	2,5	125	22	14,0	-	-
K17212000	K17222000	M 20	2,5	140	22	16,0	-	-
K17212200	K17222200	M 22	2,5	140	24	18,0	-	-
K17212400	K17222400	M 24	3,0	160	28	18,0	-	-
K17212700	K17222700	M 27	3,0	160	36	20,0	-	-
K17213000	K17223000	M 30	3,50	180	40	22,0	-	-

M 10'a kadar DIN 371 M 12' den sonrası DIN 376

(\*) ORM Katalog Sf : 99

(-) = Fiyat ve termin sorunuz.

## Makina kılavuzu, metrik normal vida - DÜZ KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K15200302	M 3	0,5	56	10	2,2	756,47
K15200402	M 4	0,7	63	12	2,8	756,47
K15200502	M 5	0,8	70	14	3,5	765,07
K15200602	M 6	1	80	16	4,5	765,07
K15200802	M 8	1,25	90	18	6	916,62
K15201002	M 10	1,5	100	20	7	1.057,04
K15201200	M 12	1,75	110	23	9	1.303,08



ORM Katalog Sf: 104

## Makina kılavuzu, metrik normal vida - HELİS KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)
K17200302	M 3	0,5	56	6	2,2	-
K17200402	M 4	0,7	63	7	2,8	919,45
K17200502	M 5	0,8	70	8	3,5	-
K17200602	M 6	1,0	80	10	4,5	897,99
K17200802	M 8	1,25	90	12	6	1.063,13
K17201002	M 10	1,5	100	14	7	1.262,38
K17201200	M 12	1,75	110	16	9	1.561,20



(\*) ORM Katalog Sf: 99  
(-) = Fiyat ve termin sorunuz.

## Makina kılavuzu, metrik normal vida - EĞİK AĞIZ BİLEME



DIN  
371-376

HSS-E



M  
6H



(\*) ORM Katalog Sf: 100  
(-) = Fiyat ve termin sorunuz.

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)
K19220300	M 3	0,5	56	9	3,5	-
K19220350	M 3,5	0,6	56	11	4,0	-
K19220400	M 4	0,7	63	12	4,5	1.043,98
K19220500	M 5	0,8	70	13	6,0	1.043,98
K19220600	M 6	1,0	80	15	6,0	1.127,99
K19220800	M 8	1,25	90	18	8,0	1.275,32
K19221000	M 10	1,5	100	20	10,0	1.504,90
K19221200	M 12	1,75	110	23	9,0	1.775,48
K19221400	M 14	2,0	110	25	11,0	2.802,62
K19221600	M 16	2,0	110	28	12,0	3.179,03
K19221800	M 18	2,5	125	30	14,0	4.530,35
K19222000	M 20	2,5	140	30	16,0	4.665,74
K19222200	M 22	2,5	140	32	18,0	-
K19222400	M 24	3,0	160	36	18,0	-
K19222700	M 27	3,0	160	36	20,0	-
K19223000	M 30	3,5	180	45	22,0	-

M 10'a kadar DIN 371 M 12'den sonrası DIN 376

## Makina kılavuzu, metrik normal vida - HELİS KANALLI



DIN  
371-376

HSS-E



M  
6H



ORM Katalog Sf: 101

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K20220300	M 3	0,5	56	5	3,5	1.092,70
K20220400	M 4	0,7	63	7	4,5	1.127,37
K20220500	M 5	0,8	70	8	6,0	1.127,37
K20220600	M 6	1,0	80	10	6,0	1.220,65
K20220800	M 8	1,25	90	13	8,0	1.378,64
K20221000	M 10	1,5	100	15	10,0	1.623,94
K20221200	M 12	1,75	110	18	9,0	1.822,70
K20221400	M 14	2,0	110	20	11,0	2.739,96
K20221600	M 16	2,0	110	20	12,0	3.108,81
K20221800	M 18	2,5	125	25	14,0	4.522,32
K20222000	M 20	2,5	140	25	16,0	4.654,76
K20222200	M 22	2,5	140	25	18,0	-
K20222400	M 24	3,0	160	30	18,0	-
K20222700	M 27	3,0	160	36	20,0	-
K20223000	M 30	3,5	180	40	22,0	-

M 10'a kadar DIN 371 M 12'den sonrası DIN 376

## Makina kılavuzu, metrik diş atlamalı vida - EĞİK AĞIZ BİLEME



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K23200400	M 4	0,7	63	7	5	-
K23200500	M 5	0,8	70	8	6	909,51
K23200600	M 6	1,0	80	10	6	959,08
K23200800	M 8	1,25	90	13	8	1.009,88
K23201000	M 10	1,5	100	15	10	1.116,53
K23201200	M 12	1,75	110	18	9	1.590,69

M 10' a kadar DIN 371 M 12' den sonrası DIN 376



ORM Katalog Sf: 103

## Makina kılavuzu, metrik normal vida - HELİS KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K24200400	M 4	0,7	63	7	4,5	-
K24200500	M 5	0,8	70	8	6	842,22
K24200600	M 6	1,0	80	10	6	885,10
K24200800	M 8	1,25	90	13	8	942,20
K24201000	M 10	1,5	100	15	10	1.059,45
K24201200	M 12	1,75	110	18	9	1.525,40

M 10' a kadar DIN 371 M 12' den sonrası DIN 376



ORM Katalog Sf: 103



## Makina kılavuzu, metrik ince vida - EĞİK AĞIZ BİLEME



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K53200601	M 6	0,75	80	15	3,4	1.514,64
K53200801	M 8	0,75	80	15	4,9	1.674,35
K53200802	M 8	1	90	18	4,9	1.613,49
K53201002	M 10	1	90	20	5,5	1.648,10
K53201003	M 10	1,25	90	20	5,5	1.832,56
K53201202	M 12	1	100	21	7	1.753,57
K53201203	M 12	1,25	100	21	7	1.872,10
K53201204	M 12	1,5	100	21	7	1.753,57
K53201402	M 14	1	100	21	9	2.261,24
K53201403	M 14	1,25	100	21	9	2.261,24
K53201404	M 14	1,5	100	21	9	2.129,35
K53201604	M 16	1,5	100	21	9	2.367,88
K53201804	M 18	1,5	110	24	11	2.839,71
K53202004	M 20	1,5	125	24	12	3.609,22
K53202204	M 22	1,5	125	24	14,5	3.938,44
K53202404	M 24	1,5	140	26	14,5	4.234,63



ORM Katalog Sf: 108

## Makina kılavuzu, metrik ince vida - HELİS KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K54200601	M 6	0,75	80	15	3,4	1.651,54
K54200801	M 8	0,75	80	15	4,9	1.924,85
K54200802	M 8	1	90	18	4,9	1.756,77
K54201002	M 10	1	90	20	5,5	1.798,13
K54201003	M 10	1,25	90	20	5,5	1.997,38
K54201202	M 12	1	100	21	7	1.913,38
K54201203	M 12	1,25	100	21	7	2.041,75
K54201204	M 12	1,5	100	21	7	1.913,38
K54201402	M 14	1	100	21	9	2.470,28
K54201403	M 14	1,25	100	21	9	2.470,28
K54201404	M 14	1,5	100	21	9	2.323,85
K54201604	M 16	1,5	100	21	9	2.585,69
K54201804	M 18	1,5	110	24	11	3.098,45
K54202004	M 20	1,5	125	24	12	3.938,60
K54202204	M 22	1,5	125	24	14,5	4.284,62
K54202404	M 24	1,5	140	26	14,5	4.630,72



ORM Katalog Sf: 109

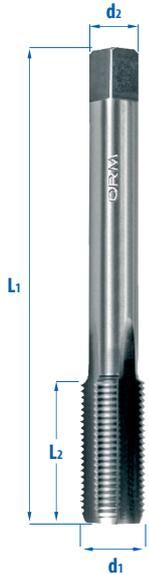
## Makina kılavuzu, whitworth vida - DÜZ KANAL



Ürün Kodu	d1 mm	p	L1 mm	L2 mm	d2 mm	TL/Adet
K66200007	W 1/4"	20	80	19	4,5	1.271,83
K66200008	W 5/16"	18	90	22	6	1.446,59
K66200009	W 3/8"	16	100	24	7	1.670,83
K66200010	W 7/16"	14	100	24	8	1.936,94
K66200011	W 1/2"	12	110	29	9	2.097,60
K66200012	W 9/16"	12	110	30	11	2.837,19
K66200013	W 5/8"	11	110	32	12	3.233,10
K66200015	W 3/4"	10	125	34	14	4.810,93

ORM Katalog Sf: 110

## Makina kılavuzu, UNC vida - DÜZ KANAL



Ürün Kodu	d1 mm	p	L1 mm	L2 mm	d2 mm	TL/Adet
K69200019	UNC 1/4"	20	80	19	4,5	1.203,48
K69200020	UNC 5/16"	18	90	22	6	1.411,16
K69200021	UNC 3/8"	16	100	24	7	1.627,38
K69200022	UNC 7/16"	14	100	24	8	1.888,48
K69200023	UNC 1/2"	13	110	29	9	2.044,82
K69200024	UNC 9/16"	12	110	30	11	2.768,07
K69200025	UNC 5/8"	11	110	32	12	3.155,99
K69200027	UNC 3/4"	10	125	34	14	4.682,83

ORM Katalog Sf: 111

## Makina kılavuzu, UNC vida - EĞİK AĞIZ BİLEME



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K70200007	UNC 1/4"	20	80	19	4,5	1.360,00
K70200008	UNC 5/16"	18	90	22	6	1.594,70
K70200009	UNC 3/8"	16	100	24	7	1.838,91
K70200010	UNC 7/16"	14	100	24	8	2.133,86
K70200011	UNC 1/2"	13	110	29	9	2.310,81
K70200012	UNC 9/16"	12	110	30	11	3.128,21
K70200013	UNC 5/8"	11	110	32	12	3.566,26
K70200015	UNC 3/4"	10	125	34	14	5.291,51



ORM Katalog Sf: 111

## Makina kılavuzu, UNC vida - HELİS KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K71200019	UNC 1/4"	20	80	12	4,5	1.446,25
K71200020	UNC 5/16"	18	90	14	6	1.694,58
K71200021	UNC 3/8"	16	100	16	7	1.953,66
K71200022	UNC 7/16"	14	100	16	8	2.266,75
K71200023	UNC 1/2"	13	110	20	9	2.453,30
K71200024	UNC 9/16"	12	110	22	11	3.321,95
K71200025	UNC 5/8"	11	110	22	12	3.785,98
K71200027	UNC 3/4"	10	125	28	14	5.622,32



ORM Katalog Sf: 111



## Makina kılavuzu, UNF vida - HELİS KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K78200019	UNF 1/4"	28	80	12	4,5	1.643,01
K78200020	UNF 5/16"	24	90	14	6	1.873,52
K78200021	UNF 3/8"	24	100	16	7	2.155,28
K78200022	UNF 7/16"	20	100	16	8	2.506,20
K78200023	UNF 1/2"	20	110	20	9	2.711,57
K78200024	UNF 9/16"	18	110	22	11	3.960,25
K78200025	UNF 5/8"	18	110	22	12	4.517,05
K78200027	UNF 3/4"	16	125	28	14	6.682,84



ORM Katalog Sf : 112

## Boru vidalı makina kılavuzu - DÜZ KANALLI



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K08200303	G 1/8"	28	90	20	7	1.468,71
K08200307	G 1/4"	19	100	22	11	1.952,22
K08200309	G 3/8"	19	100	22	12	2.367,35
K08200311	G 1/2"	14	125	25	16	3.488,98
K08200315	G 3/4"	14	140	28	20	5.358,69





## Makina somun kılavuzu, metrik normal vida - DÜZ KANAL



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K79100300	M 3	0,5	70	22	2,2	889,88
K79100400	M 4	0,7	90	25	2,8	889,88
K79100500	M 5	0,8	100	28	3,5	889,88
K79100600	M 6	1,0	110	32	4,5	918,30
K79100800	M 8	1,25	125	40	6,0	1.074,75
K79101000	M 10	1,5	140	45	7,0	1.360,76
K79101200	M 12	1,75	180	50	9,0	1.858,30
K79101400	M 14	2,0	200	56	11,0	2.684,41
K79101600	M 16	2,0	200	63	12,0	2.881,07
K79101800	M 18	2,5	220	63	14,0	4.019,92
K79102000	M 20	2,5	250	70	16,0	4.363,93

İsteğe göre 6G toleransında üretilir.



ORM Katalog Sf: 113

## Talaş ve yağ kanallı makina kılavuzu - OVALAMA



Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K51210300	M 3	0,5	56	10	3,5	2.027,40
K51210400	M 4	0,7	63	12	4,5	2.105,02
K51210500	M 5	0,8	70	14	6,0	2.298,27
K51210600	M 6	1,0	80	16	6,0	2.392,71
K51210800	M 8	1,25	90	18	8,0	2.681,89
K51211000	M 10	1,5	100	20	10,0	3.173,27
K51211200	M 12	1,75	110	24	9,0	3.844,66

M 10' a kadar DIN 371 M 12' den sonrası DIN 376



ORM Katalog Sf: 106

## Makina somun kılavuzu - METRİK NORMAL VİDA



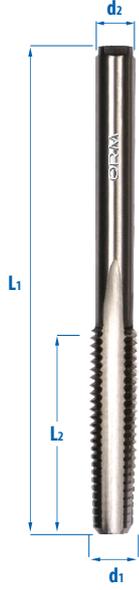
HSS



M  
6H



TİP : B



ORM Katalog Sf: 114-115

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K81100400	M 4	0,7	60	18	3	813,65
K81100500	M 5	0,8	70	21	3,8	838,13
K81100600	M 6	1	80	25	4,5	862,96
K81100800	M 8	1,25	100	32	6,1	1.010,91
K81101000	M 10	1,5	110	40	7,75	1.280,20
K81101200	M 12	1,75	120	46	9,35	1.749,06
K81101400	M 14	2	140	50	11	2.527,62
K81101600	M 16	2	140	50	13	2.711,83
K81101800	M 18	2,5	160	65	14	3.782,39
K81102000	M 20	2,5	160	65	16	4.107,26

## Makina somun kılavuzu - METRİK İNCE VİDA



HSS



M  
6H



TİP : B



ORM Katalog Sf: 114-115

Ürün Kodu	d <sub>1</sub> mm	p	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
K83101002	M 10	1	100	25	8,3	1.517,47
K83101003	M 10	1,25	110	32	8,0	1.690,90
K83101203	M 12	1,25	120	32	10,2	2.352,77
K83101204	M 12	1,5	120	40	10,0	2.174,67
K83101404	M 14	1,5	120	40	12,2	2.646,47
K83101604	M 16	1,5	140	40	14,1	2.966,25
K83101804	M 18	1,5	140	40	15,4	3.615,99
K83102004	M 20	1,5	160	40	17,3	4.019,66

# Frezeler

**ORM**



**MERMERLER**  
ŞİRKETLER GRUBU

## Silindirik saplı, uzun delik frezesi - KISA



DIN  
327

HSS-E

D



Z  
2



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
F01200400	4	6	51	7	638,88
F01200500	5	6	52	8	626,60
F01200600	6	6	52	8	608,23
F01200800	8	10	61	11	730,43
F01201000	10	10	63	13	873,43
F01201200	12	12	73	16	1.143,95
F01201400	14	12	73	16	1.443,81
F01201600	16	16	79	19	1.695,13
F01201800	18	16	79	19	2.050,47
F01202000	20	20	88	22	2.417,87
F01202200	22	20	88	22	-
F01202400	24	25	102	26	-
F01202500	25	25	102	26	-
F01202800	28	25	102	26	-
F01203000	30	25	102	26	-
F01203200	32	32	112	32	-

(\*) ORM Katalog Sf: 163

(-) = Fiyat ve termin sorunuz.

## Silindirik saplı, uzun delik frezesi - KISA



DIN  
327

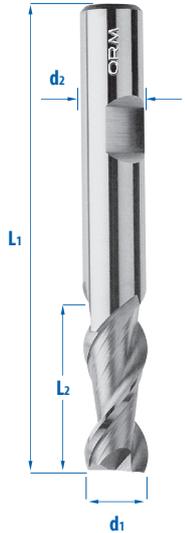
HSS-E

D



30°

Z  
2



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
F02200400	4	6	51	7	-
F02200500	5	6	52	8	639,64
F02200600	6	6	52	8	639,64
F02200800	8	10	61	11	767,70
F02201000	10	10	63	13	917,51
F02201200	12	12	73	16	1.201,10
F02201400	14	12	73	16	1.471,39
F02201600	16	16	79	19	1.726,41
F02201800	18	16	79	19	2.089,91
F02202000	20	20	88	22	2.463,09
F02202200	22	20	88	22	3.420,33
F02202400	24	25	102	26	4.156,98
F02202600	25	25	102	26	-
F02202800	28	25	102	26	-
F02203000	30	25	102	26	5.785,30
F02203200	32	32	112	32	6.553,13

(\*) ORM Katalog Sf: 163

(-) = Fiyat ve termin sorunuz.

## Silindirik saplı, küresel alınlı kalıpcı freze

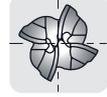
DIN  
1889

HSS-E

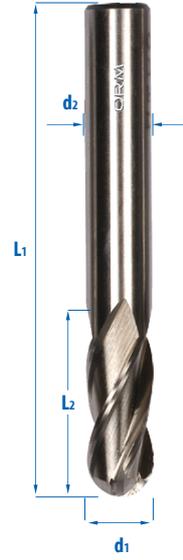
B



Z  
4-6



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
F32200600	6	57	13	6	1.101,15
F32200800	8	69	19	10	1.352,15
F32201000	10	72	22	10	1.548,07
F32201200	12	83	26	12	1.980,74
F32201400	14	83	26	12	2.180,60
F32201600	16	92	32	16	2.703,88
F32201800	18	92	32	16	3.218,98
F32202000	20	104	38	20	3.862,63



ORM Katalog Sf: 171

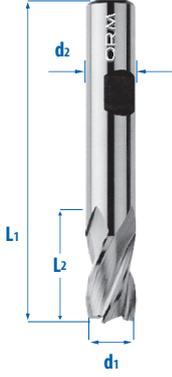
## Silindirik saplı parmak freze - KISA



DIN  
844

HSS-E

BN



(\*) ORM Katalog Sf: 164  
(-) = Fiyat ve termin sorunuz.

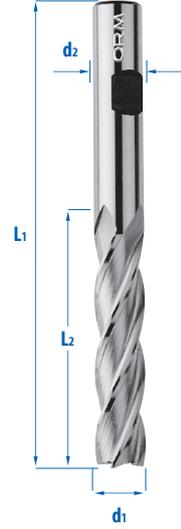
Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
F04200200	2	6	51	7	726,32
F04200250	2,5	6	52	8	-
F04200300	3	6	52	8	520,79
F04200400	4	6	55	11	520,79
F04200500	5	6	57	13	520,79
F04200600	6	6	57	13	529,82
F04200700	7	10	66	16	683,75
F04200800	8	10	69	19	683,75
F04200900	9	10	69	19	813,73
F04201000	10	10	72	22	760,40
F04201100	11	12	79	22	1.010,64
F04201200	12	12	83	26	970,78
F04201300	13	12	83	26	1.251,59
F04201400	14	12	83	26	1.325,65
F04201500	15	12	83	26	1.538,70
F04201600	16	16	92	32	1.538,70
F04201700	17	16	92	32	1.921,75
F04201800	18	16	92	32	1.816,76
F04201900	19	16	92	32	2.350,67
F04202000	20	20	104	38	2.279,71
F04202100	21	20	104	38	2.771,40
F04202200	22	20	104	38	2.784,78
F04202400	24	25	121	45	3.699,38
F04202500	25	25	121	45	3.699,38
F04202600	26	25	121	45	4.518,88
F04202800	28	25	121	45	4.736,87
F04203000	30	25	121	45	5.023,64
F04203200	32	32	133	53	5.692,51
F04203400	34	32	133	53	-
F04203800	38	40	155	63	-
F04204000	40	40	155	63	-
F04204500	45	40	155	63	-

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 164'ten bakabilirsiniz...

## Silindirik saplı parmak freze - UZUN



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
F07200300	3	6	51	12	699,97
F07200400	4	6	63	19	699,97
F07200500	5	6	68	24	699,97
F07200600	6	6	68	24	713,43
F07200700	7	10	80	32	919,11
F07200800	8	10	88	38	915,78
F07201000	10	10	95	45	1.026,52
F07201200	12	12	110	53	1.308,51
F07201400	14	14	110	53	1.744,23
F07201600	16	16	123	63	2.072,51
F07201800	18	18	123	63	2.445,45
F07202000	20	20	141	75	3.083,57
F07202200	22	20	141	75	3.895,88
F07202400	24	25	166	90	5.174,90
F07202500	25	25	166	90	5.174,90
F07202600	26	25	166	90	6.321,52
F07202800	28	25	166	90	6.630,36
F07203000	30	25	166	90	7.027,03
F07203200	32	32	186	106	7.967,89

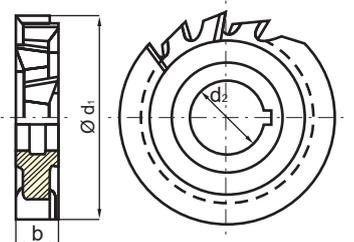


ORM Katalog Sf: 165

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 165'ten bakabilirsiniz...

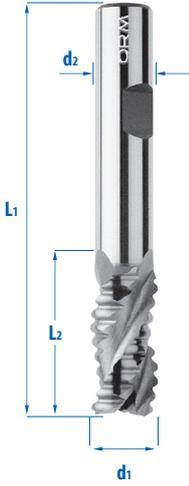
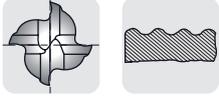
## Kanal Freze - Düz ve Çapraz dişli

Düz - A		ÇAPRAZ - B		Düz - A		ÇAPRAZ - B	
Ürün Kodu	Ürün Kodu	d1 x d2 x b mm	TL/Adet (*)	TL/Adet (*)	TL/Adet (*)	TL/Adet (*)	TL/Adet (*)
F51200630	F52200630	63x6x22	-	-	-	-	-
F51200632	F52200632	8	-	-	-	-	-
F51200633	F52200633	10	-	-	-	-	-
F51200634	F52200634	12	-	-	-	-	-
F51200802	F52200802	80x8x27	-	-	-	-	-
F51200803	F52200803	10	-	-	-	-	-
F51200804	F52200804	12	-	-	-	-	-
F51200805	F52200805	14	-	-	-	-	-
F51200806	F52200806	16	-	-	-	-	-
F51201002	F52201002	100x10x32	-	-	-	-	-
F51201003	F52201003	12	-	-	-	-	-
F51201004	F52201004	14	-	-	-	-	-
F51201005	F52201005	16	-	-	-	-	-
F51201006	F52201006	18	-	-	-	-	-
F51201007	F52201007	20	-	-	-	-	-
F51201252	F52201252	125x12x32	-	-	-	-	-
F51201253	F52201253	14	-	-	-	-	-
F51201254	F52201254	16	-	-	-	-	-
F51201255	F52201255	18	-	-	-	-	-
F51201256	F52201256	20	-	-	-	-	-
F51201602	F52201602	160x14x40	-	-	-	-	-
F51201603	F52201603	16	-	-	-	-	-
F51201604	F52201604	18	-	-	-	-	-
F51201605	F52201605	20	-	-	-	-	-



(\*) ORM Katalog Sf: 181-182  
(-) = Fiyat ve termin sorunuz.

## Silindirik saplı parmak freze - KISA, KABA TALAŞ KABA İŞLEME

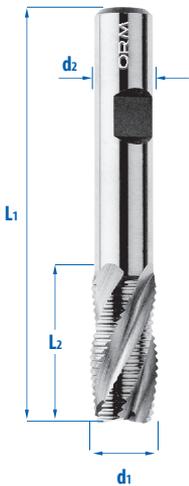
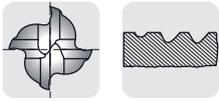


Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
F10200800	8	10	69	19	1.316,30
F10201000	10	10	72	22	1.473,91
F10201200	12	12	83	26	1.881,47
F10201400	14	12	83	26	2.507,73
F10201600	16	16	92	32	2.979,94
F10201800	18	16	92	32	3.534,09
F10202000	20	20	104	38	4.413,50
F10202200	22	20	104	38	5.833,19
F10202400	24	25	104	38	6.748,05
F10202500	25	25	121	45	6.748,05
F10202600	26	25	121	45	8.746,01
F10202800	28	25	121	45	9.173,43
F10203000	30	25	121	45	9.728,73
F10203200	32	32	133	53	11.024,88
F10203500	35	32	133	53	-
F10203600	36	32	133	53	-
F10203800	38	40	155	63	-
F10204000	40	40	155	63	-
F10204400	44	40	155	63	-
F10204500	45	40	155	63	-

(\*) ORM Katalog Sf: 166  
(-) = Fiyat ve termin sorunuz.

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 166'dan bakabilirsiniz...

## Silindirik saplı parmak freze - KISA, KABA TALAŞ İNCE İŞLEME



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
F16200800	8	10	69	19	1.407,15
F16201000	10	10	72	22	1.573,63
F16201200	12	12	83	26	2.009,66
F16201400	14	12	83	26	2.677,98
F16201600	16	16	92	32	3.184,21
F16201800	18	16	92	32	3.766,17
F16202000	20	20	104	38	4.711,55
F16202200	22	20	104	38	6.660,12
F16202400	24	25	104	38	8.202,42
F16202500	25	25	121	45	8.202,42
F16202600	26	25	121	45	10.044,08
F16202800	28	25	121	45	10.521,73
F16203000	30	25	121	45	11.157,61
F16203200	32	32	133	53	12.286,68
F16203500	35	32	133	53	-
F16203600	36	32	133	53	-
F16203800	38	40	155	63	-
F16204000	40	40	155	63	-
F16204400	44	40	155	63	-
F16204500	45	40	155	63	-

(\*) ORM Katalog Sf: 168  
(-) = Fiyat ve termin sorunuz.

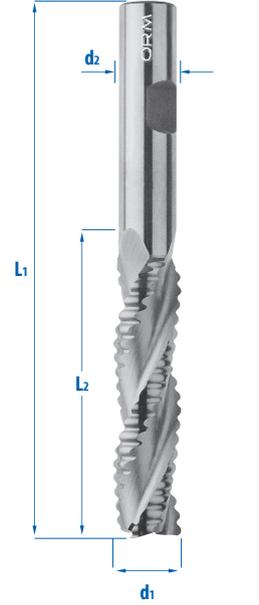
İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 168'den bakabilirsiniz...

## Silindirik saplı parmak freze - UZUN, KABA TALAŞ KABA İŞLEME



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
F13201000	10	10	95	45	2.032,41
F13201200	12	12	110	53	2.596,55
F13201400	14	12	110	53	3.625,25
F13201600	16	16	123	63	4.310,10
F13201800	18	16	123	63	5.086,23
F13202000	20	20	141	75	6.378,05
F13202200	22	20	141	75	8.415,44
F13202400	24	25	166	90	10.333,34
F13202500	25	25	166	90	10.333,34
F13202600	26	25	166	90	12.645,41
F13202800	28	25	166	90	13.266,07
F13203000	30	25	166	90	14.069,70
F13203200	32	32	186	106	15.938,62

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 167'den bakabilirsiniz...



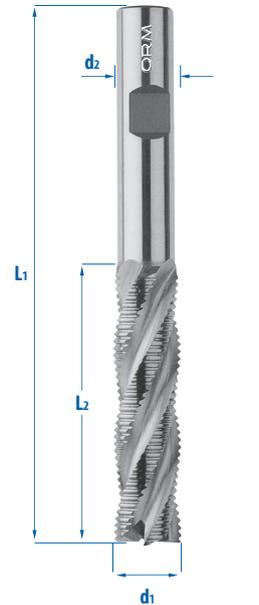
ORM Katalog Sf: 167

## Silindirik saplı parmak freze - UZUN, KABA TALAŞ İNCE İŞLEME



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
F19201000	10	10	95	45	2.105,70
F19201200	12	12	110	53	2.683,65
F19201400	14	12	110	53	3.762,26
F19201600	16	16	123	63	4.469,76
F19201800	18	16	123	63	5.263,75
F19202000	20	20	141	75	6.610,05
F19202200	22	20	141	75	9.324,87
F19202400	24	25	166	90	11.479,97
F19202500	25	25	166	90	11.479,97
F19202600	26	25	166	90	14.076,05
F19202800	28	25	166	90	14.751,37
F19203000	30	25	166	90	15.619,26
F19203200	32	32	186	106	17.695,79

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 169'dan bakabilirsiniz...



ORM Katalog Sf: 169

## Mors konik saplı parmak freze - KISA



DIN  
845

HSS-E

BN



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	Mors Konik	TL/Adet (*)
F22201200	12,0	96	26	1	-
F22201400	14,0	111	26	2	-
F22201600	16,0	117	32	2	-
F22201800	18,0	117	32	2	-
F22202000	20,0	123	38	2	-
F22202200	22,0	123	38	2	-
F22202500	25,0	147	45	3	-
F22202800	28,0	147	45	3	-
F22203000	30,0	147	45	3	-
F22203200	32,0	178	53	4	-
F22203600	36,0	178	53	4	-
F22204000	40,0	188	63	4	-

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 170' ten bakabilirsiniz...

(\*) ORM Katalog Sf: 170  
(-) = Fiyat ve termin sorunuz.

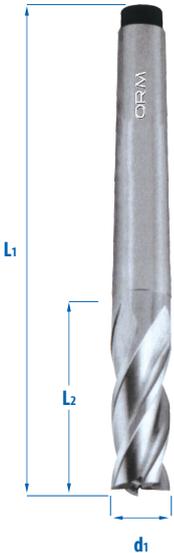
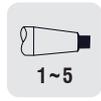
## Mors konik saplı parmak freze - UZUN



DIN  
845

HSS-E

BN



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	Mors Konik	TL/Adet (*)
F27201600	16,0	148	63	2	-
F27201800	18,0	148	63	2	-
F27202000	20,0	160	75	2	-
F27202200	22,0	160	75	2	-
F27202500	25,0	192	90	3	-
F27202800	28,0	192	90	3	-
F27203000	30,0	192	90	3	-
F27203200	32,0	231	106	4	-
F27203600	36,0	231	106	4	-
F27204000	40,0	250	125	4	-

İstenildiğinde Z (Kanal Sayısı); ölçülerine ORM katalog sayfa 170' ten bakabilirsiniz...

(\*) ORM Katalog Sf: 170  
(-) = Fiyat ve termin sorunuz.

## Silindirik saplı, delikli havşa freze

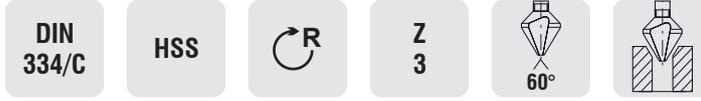


Ürün Kodu	Çalışma Aralığı mm	d <sub>1</sub> mm	d <sub>2</sub> mm	L <sub>1</sub> mm	TL/Adet (*)
R28200250	2 - 5	10	6	45	-
R28200510	5 - 10	14	8	48	-
R28201500	6 - 14	15	8	55	-
R28201015	10 - 15	21	10	65	-
R28201520	15 - 20	28	12	85	-
R28202025	20 - 25	35	12,7	102	-



(\*) ORM Katalog Sf: 151  
 (-) = Fiyat ve termin sorunuz.

## Silindirik saplı, 3 kesici ağızlı, havşa freze - Tip C



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
R22100800	8	8	2	50	8	-
R22101250	12,5	8	3,2	56	11,2	-
R22101600	16	10	4	63	14	-
R22102000	20	10	5	67	17	-
R22102500	25	10	6,3	71	20	-

(\*) ORM Katalog Sf : 147  
(-) = Fiyat ve termin sorunuz.

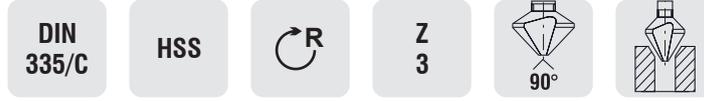
## Silindirik saplı, 3 kesici ağızlı, havşa freze - Tip C



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet (*)
R22200800	8	8	2	50	8	-
R22201250	12,5	8	3,2	56	11,2	-
R22201600	16	10	4	63	14	-
R22202000	20	10	5	67	17	-
R22202500	25	10	6,3	71	20	-

(\*) ORM Katalog Sf : 147  
(-) = Fiyat ve termin sorunuz.

## Silindirik saplı, 3 kesici ağızlı, havşa freze - Tip C



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
R25100630	6,3	5	1,5	45	5,0	744,11
R25100830	8,3	6	2	50	6,0	818,50
R25101040	10,4	6	2,5	50	7,1	1.006,81
R25101240	12,4	8	2,8	56	8,0	1.072,23
R25101650	16,5	10	3,2	60	10,0	1.333,10
R25102050	20,5	10	3,5	63	12,5	1.794,72
R25102500	25,0	10	3,8	67	15,0	2.472,04
R25103150	31,5	12	4,2	71	18,0	4.296,90



ORM Katalog Sf: 149

## Silindirik saplı, 3 kesici ağızlı, havşa freze - Tip C



Ürün Kodu	d <sub>1</sub> mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	TL/Adet
R25200630	6,3	5	1,5	45	5,0	1.119,31
R25200830	8,3	6	2	50	6,0	1.231,20
R25201040	10,4	6	2,5	50	7,1	1.514,46
R25201240	12,4	8	2,8	56	8,0	1.612,49
R25201650	16,5	10	3,2	60	10,0	2.005,75
R25202050	20,5	10	3,5	63	12,5	2.700,02
R25202500	25,0	10	3,8	67	15,0	3.718,62
R25203150	31,5	12	4,2	71	18,0	6.464,20



ORM Katalog Sf: 149



## Silindirik saplı tek ağızlı alüminyum freze - TİP A



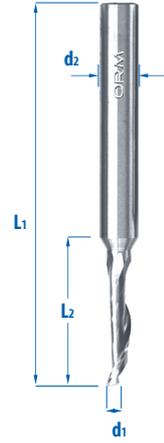
HSS-E



Z  
1



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
F40200360	3	60	12	6	755,31
F40200460	4	60	12	8	755,31
F40200462	4	120	20	8	1.043,23
F40200560	5	60	12	8	755,31
F40200561	5	60	13	8	755,31
F40200562	5	60	18	8	774,36
F40200571	5	100	25	8	1.032,63
F40200572	5	120	25	8	1.043,23
F40200660	6	60	14	8	755,31
F40200663	6	80	25	8	921,14
F40200800	8	80	25	8	746,02
F40200802	8	100	25	8	918,89
F40200885	8	120	25	8	1.081,09



ORM Katalog Sf: 174

## Silindirik saplı tek ağızlı alüminyum freze - TİP B



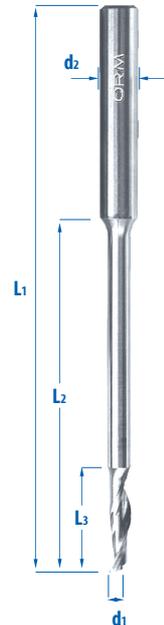
HSS-E



Z  
1



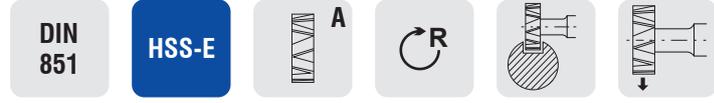
Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	L <sub>3</sub> mm	d <sub>2</sub> mm	TL/Adet
F41200490	4	90	45	16	8	1.076,59
F41200570	5	70	45	25	8	1.076,40
F41200580	5	80	35	18	8	858,94
F41200590	5	90	45	16	8	1.076,58
F41200591	5	100	35	18	8	1.045,07
F41200592	5	100	55	25	8	1.045,07
F41200593	5	120	75	14	8	1.084,43
F41200680	6	80	35	18	8	1.076,58
F41200681	6	100	35	18	8	1.076,58
F41200880	8	80	54	14	8	1.076,58
F41200881	8	100	68	28	8	1.076,58
F41200883	8	120	75	14	8	1.116,94
F41201000	10	90	45	25	8	1.536,39



ORM Katalog Sf: 174



## Silindirik saplı, T - kanal frezeleri - ÇAPRAZ DİŞLİ



Ürün Kodu	d <sub>1</sub> mm	b mm	d <sub>2</sub> mm	d <sub>3</sub> mm	L mm	TL/Adet (*)
F45202500	25	11	16	12	82	-
F45202800	28	12	16	13	85	-
F45203200	32	14	16	15	90	-
F45203600	36	16	25	17	103	-
F45204000	40	18	25	19	108	-
F45204500	45	20	25	21	113	-

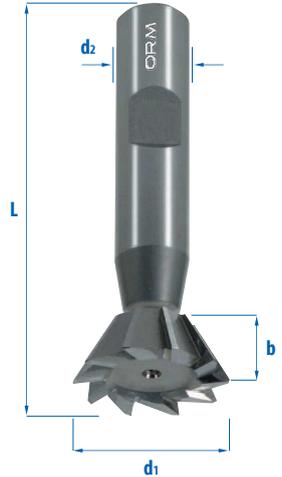


(\*) ORM Katalog Sf : 177  
(-) = Fiyat ve termin sorunuz.

## Silindirik saplı, kırılmalı freze



Ürün Kodu	d <sub>1</sub> mm	b mm	d <sub>2</sub> mm	L mm	TL/Adet (*)
F47201600	16 x 45°	4	12	60	-
F47202000	20 x 45°	5	12	63	-
F47202500	25 x 45°	6.3	12	67	-
F47203200	32 x 45°	8	16	71	-
F47201601	16 x 60°	6.3	12	60	-
F47202001	20 x 60°	8	12	63	-
F47202501	25 x 60°	10	12	67	-
F47203201	32 x 60°	12.5	16	71	-



(\*) ORM Katalog Sf : 179  
(-) = Fiyat ve termin sorunuz.

## Vals frezeler

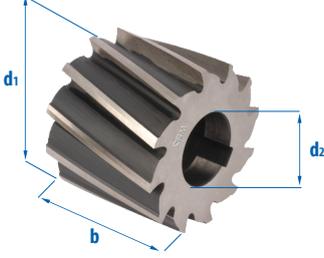
DIN  
884

TS  
303/1

HSS-E

N

R



Ürün Kodu	d1 (js 16)	b (js 16)	d2 (H7)	TL/Adet (*)
F49200500	50	40	22	-
F49200501	50	63	22	-
F49200502	50	80	22	-
F49200630	63	50	27	-
F49200631	63	70	27	-
F49200800	80	63	32	-
F49200801	80	100	32	-
F49201000	100	70	40	-

(\*) ORM Katalog Sf : 180  
(-) = Fiyat ve termin sorunuz.

## Vals frezeler, kaba talaş

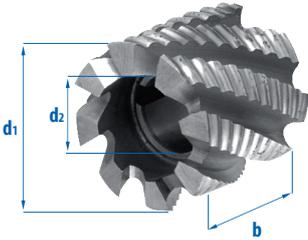
DIN  
884

TS  
303/1

HSS-E

NF

R



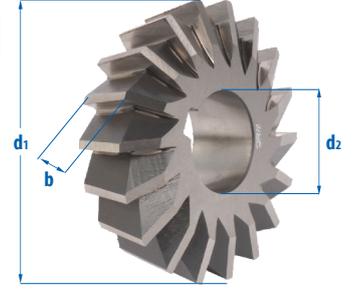
Ürün Kodu	d1 (js 16)	b (js 16)	d2 (H7)	TL/Adet (*)
F50200500	50	40	22	-
F50200501	50	63	22	-
F50200502	50	80	22	-
F50200630	63	50	27	-
F50200631	63	70	27	-
F50200800	80	63	32	-
F50200801	80	100	32	-
F50201000	100	70	40	-

(\*) ORM Katalog Sf : 180  
(-) = Fiyat ve termin sorunuz.

## Konik frezeler, çift açılı - Tip B



Ürün Kodu	d1 (js 16)	$\sigma$ (+ 1°)	b (js 16)	d2 (H7)	z	TL/Adet (*)
F53106301	63	60°	14	22	18	-
F53105001	50	70°	14	16	16	-
F53106302	63	70°	18	22	18	-
F53105002	50	75°	16	16	16	-
F53106303	63	75°	18	22	18	-
F53105003	50	80°	16	16	16	-
F53106304	63	80°	20	22	18	-
F53105004	50	90°	18	16	16	-

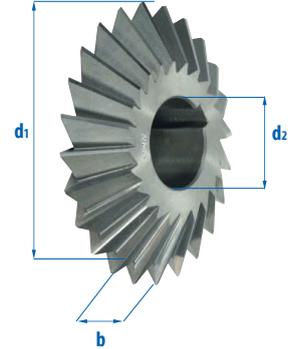


(\*) ORM Katalog Sf : 183  
(-) = Fiyat ve termin sorunuz.

## Prizma freze, çift açılı



Ürün Kodu	d1 (js 16)	$\sigma$ (+ 1°)	b (js 16)	d2 (H7)	z	TL/Adet (*)
F54100501	50	45°	8	16	22	-
F54100631	63	45°	10	22	24	-
F54100801	80	45°	12	27	26	-
F54101001	100	45°	18	32	28	-
F54100502	50	60°	10	16	18	-
F54100632	63	60°	14	22	20	-
F54100802	80	60°	18	27	22	-
F54101002	100	60°	25	32	24	-
F54100503	50	90°	14	16	16	-
F54100633	63	90°	20	22	18	-
F54100803	80	90°	22	27	20	-
F54101003	100	90°	32	32	24	-



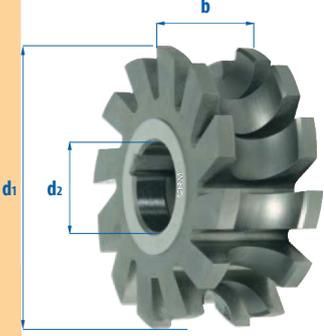
(\*) ORM Katalog Sf : 183  
(-) = Fiyat ve termin sorunuz.

## İç bükey freze

DIN  
855

HSS

A



(\*) ORM Katalog Sf: 186  
(-) = Fiyat ve termin sorunuz.

Ürün Kodu	d1 (js 16)	r	b	d2 (H7)	z	TL/Adet (*)
F57100500	50	1,60	8	16	14	-
F57100501	50	2,00	9	16	14	-
F57100630	63	2,50	10	22	12	-
F57100631	63	3,00	12	22	12	-
F57100632	63	3,15	12	22	12	-
F57100633	63	4,00	16	22	12	-
F57100634	63	5,00	20	22	12	-
F57100800	80	6,00	24	27	12	-
F57100801	80	6,30	24	27	12	-
F57100802	80	8,00	32	27	12	-
F57101001	100	10,00	36	32	12	-
F57101002	100	12,00	40	32	12	-
F57101003	100	12,50	40	32	12	-
F57101251	125	16,00	50	32	10	-
F57101252	125	20,00	60	32	10	-

## Dış bükey freze

DIN  
856

HSS



(\*) ORM Katalog Sf: 186  
(-) = Fiyat ve termin sorunuz.

Ürün Kodu	d1 (js 16)	r	b	d2 (H7)	z	TL/Adet (*)
F58100500	50	1,60	3,2	16	14	-
F58100501	50	2,00	4,0	16	14	-
F58100630	63	2,50	5,0	22	12	-
F58100631	63	3,00	6,0	22	12	-
F58100632	63	3,15	6,3	22	12	-
F58100633	63	4,00	8,0	22	12	-
F58100634	63	5,00	10,0	22	12	-
F58100800	80	6,00	12,0	27	12	-
F58100801	80	6,30	12,6	27	12	-
F58100802	80	8,00	16,0	27	12	-
F58101001	100	10,00	20,0	32	12	-
F58101002	100	12,00	24,0	32	12	-
F58101003	100	12,50	25,0	32	12	-
F58101251	125	16,00	32,0	32	12	-
F58101252	125	20,00	40,0	32	12	-

# Raybalar & Senkerler

Raybalar & Senkerler



MERMERLER  
ŞİRKETLER GRUBU

ORM

## Silindirik saplı el raybası, sol helis kanallı - Tip B

DIN  
206/B

HSS



N



ORM Katalog Sf: 131

Ürün Kodu	d mm	L1 mm	L2 mm	k	TL/Adet
R02100300	3,0	62	31	2,24	-
R02100400	4,0	76	38	3,15	1.191,08
R02100450	4,5	81	41	3,55	1.408,99
R02100500	5,0	87	44	4,00	1.375,30
R02100550	5,5	93	47	4,50	1.460,90
R02100600	6,0	93	47	4,50	1.318,64
R02100650	6,5	100	50	5,00	1.460,90
R02100700	7,0	107	54	5,60	1.447,59
R02100800	8,0	115	58	6,30	1.504,17
R02100850	8,5	115	58	6,30	1.664,32
R02100900	9,0	124	62	7,10	1.683,63
R02101000	10,0	133	66	8,00	1.683,63
R02101100	11,0	142	71	9,00	1.910,97
R02101200	12,0	152	76	10,00	2.017,69
R02101300	13,0	152	76	10,00	3.117,69
R02101400	14,0	163	81	11,20	3.429,78
R02101500	15,0	163	81	11,20	3.652,25
R02101600	16,0	175	87	12,50	3.815,74
R02101700	17,0	175	87	12,50	3.978,96
R02101800	18,0	188	93	14,00	4.409,66
R02101900	19,0	188	93	14,00	4.804,65
R02102000	20,0	201	100	16,00	4.632,40
R02102100	21,0	201	100	16,00	-
R02102200	22,0	215	107	18,00	5.389,29
R02102300	23,0	215	107	18,00	-
R02102400	24,0	231	115	20,00	6.146,52
R02102500	25,0	231	115	20,00	-
R02102600	26,0	231	115	20,00	6.784,90
R02102700	27,0	247	124	22,40	-
R02102800	28,0	247	124	22,40	-
R02102900	29,0	247	124	22,40	-
R02103000	30,0	247	124	22,40	-

## Silindirik saplı el raybası, sol helis kanallı - Tip B

DIN  
206/B

HSS-E  
Co 5



N



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	k	TL/Adet (*)
R02200300	3,0	62	31	2,24	1.729,85
R02200400	4,0	76	38	3,15	1.669,49
R02200450	4,5	81	41	3,55	-
R02200500	5,0	87	44	4,00	1.927,50
R02200550	5,5	93	47	4,50	-
R02200600	6,0	93	47	4,50	1.848,27
R02200650	6,5	100	50	5,00	-
R02200700	7,0	107	54	5,60	-
R02200800	8,0	115	58	6,30	2.108,46
R02200850	8,5	115	58	6,30	-
R02200900	9,0	124	62	7,10	2.360,38
R02201000	10,0	133	66	8,00	2.360,38
R02201100	11,0	142	71	9,00	-
R02201200	12,0	152	76	10,00	2.828,66
R02201300	13,0	152	76	10,00	4.856,64
R02201400	14,0	163	81	11,20	5.342,40
R02201500	15,0	163	81	11,20	5.689,42
R02201600	16,0	175	87	12,50	5.943,67
R02201700	17,0	175	87	12,50	6.198,08
R02201800	18,0	188	93	14,00	6.868,74
R02201900	19,0	188	93	14,00	7.223,53
R02202000	20,0	201	100	16,00	7.215,57
R02202100	21,0	201	100	16,00	-
R02202200	22,0	215	107	18,00	-
R02202300	23,0	215	107	18,00	-
R02202400	24,0	231	115	20,00	-
R02202500	25,0	231	115	20,00	-
R02202600	26,0	231	115	20,00	-
R02202700	27,0	247	124	22,40	-
R02202800	28,0	247	124	22,40	-
R02202900	29,0	247	124	22,40	-
R02203000	30,0	247	124	22,40	-



(\*) ORM Katalog Sf : 132  
(-) = Fiyat ve termin sorunuz.

## Silindirik saplı makina raybası, sol helis kanallı - Tip D

DIN  
212/D

HSS



N



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
R04100300	3,0	61	15	3	1.026,28
R04100400	4,0	75	19	4	1.125,66
R04100500	5,0	86	23	5	1.162,69
R04100600	6,0	93	26	5,6	1.235,22
R04100700	7,0	109	31	7,1	1.482,86
R04100800	8,0	117	33	8	1.527,00
R04101000	10,0	133	38	10	1.790,02
R04101200	12,0	151	44	10	2.635,00
R04101400	14,0	160	47	12,5	3.201,50
R04101600	16,0	170	52	12,5	3.414,64
R04101800	18,0	175	54	14	4.169,03
R04102000	20,0	182	56	16	4.681,03

## Silindirik saplı makina raybası, sol helis kanallı - Tip D

DIN  
212/D

HSS-E  
Co 5



N



ORM Katalog Sf: 133-134

Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet
R04200300	3,0	61	15	3	1.673,51
R04200400	4,0	75	19	4	1.835,84
R04200500	5,0	86	23	5	1.896,24
R04200600	6,0	93	26	5,6	2.014,36
R04200700	7,0	109	31	7,1	2.418,03
R04200800	8,0	117	33	8	2.490,25
R04201000	10,0	133	38	10	2.918,85
R04201200	12,0	151	44	10	4.297,59
R04201400	14,0	160	47	12,5	5.220,71
R04201600	16,0	170	52	12,5	5.568,99
R04201800	18,0	175	54	14	6.798,60
R04202000	20,0	182	56	16	7.634,08

## Mors konik saplı makina raybası, sol helis kanallı - Tip B



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	k	TL/Adet (*)
R07100500	5	133	23	1	-
R07100600	6	138	26	1	-
R07100700	7	150	31	1	-
R07100800	8	156	33	1	<b>2.716,16</b>
R07100900	9	162	36	1	-
R07101000	10	168	38	1	<b>2.716,16</b>
R07101100	11	175	41	1	<b>3.019,99</b>
R07101200	12	182	44	1	<b>2.960,31</b>
R07101300	13	182	44	1	<b>3.242,88</b>
R07101400	14	189	47	2	<b>3.287,26</b>
R07101500	15	204	50	2	<b>4.001,53</b>
R07101600	16	210	52	2	<b>4.046,17</b>
R07101700	17	214	54	2	<b>4.358,49</b>
R07101800	18	219	56	2	<b>4.537,20</b>
R07101900	19	223	58	2	<b>4.804,89</b>
R07102000	20	228	60	2	<b>4.804,89</b>
R07102100	21	232	62	2	-
R07102200	22	237	64	3	<b>5.414,46</b>
R07102300	23	241	66	3	-
R07102400	24	268	68	3	<b>6.306,83</b>
R07102500	25	268	68	3	<b>6.574,44</b>
R07102600	26	273	70	3	-
R07102700	27	273	70	3	-
R07102800	28	277	71	3	<b>7.720,07</b>
R07102900	29	277	71	3	-
R07103000	30	281	73	3	<b>7.987,79</b>
R07103200	32	317	77	4	<b>10.442,00</b>



(\*) ORM Katalog Sf : 136  
 (-) = Fiyat ve termin sorunuz.

## Mors konik saplı makina raybaları, sol helis kanallı - Tip B

DIN  
208/B

HSS-E  
Co 5



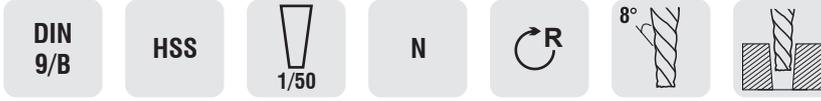
N



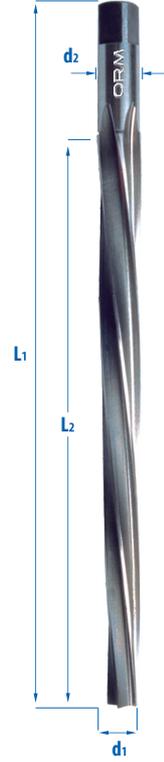
Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	k	TL/Adet (*)
R07200500	5	133	23	1	3.714,68
R07200600	6	138	26	1	3.714,68
R07200700	7	150	31	1	3.714,68
R07200800	8	156	33	1	3.355,80
R07200900	9	162	36	1	3.403,77
R07201000	10	168	38	1	3.968,36
R07201100	11	175	41	1	4.230,62
R07201200	12	182	44	1	4.409,90
R07201300	13	182	44	1	4.609,34
R07201400	14	189	47	2	4.799,46
R07201500	15	204	50	2	5.238,93
R07201600	16	210	52	2	5.367,64
R07201700	17	214	54	2	6.161,06
R07201800	18	219	56	2	6.401,77
R07201900	19	223	58	2	6.735,51
R07202000	20	228	60	2	7.052,12
R07202100	21	232	62	2	7.542,96
R07202200	22	237	64	3	7.425,11
R07202300	23	241	66	3	8.576,44
R07202400	24	268	68	3	9.857,53
R07202500	25	268	68	3	-
R07202600	26	273	70	3	-
R07202700	27	273	70	3	-
R07202800	28	277	71	3	-
R07202900	29	277	71	3	-
R07203000	30	281	73	3	-
R07203200	32	317	77	4	-

(\*) ORM Katalog Sf: 137  
(-) = Fiyat ve termin sorunuz.

## Silindirik saplı 1/50 konik pim deliği raybası, sol helis kanallı - Tip B



Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	d <sub>2</sub> mm	TL/Adet (*)
R10100300	3	80	58	4,06	-
R10100400	4	93	68	5,26	-
R10100500	5	100	73	6,36	-
R10100600	6	135	105	8,00	-
R10100800	8	180	145	10,80	-
R10101000	10	215	175	13,40	-
R10101200	12	255	210	16,00	-
R10101600	16	280	230	20,40	-
R10102000	20	310	250	24,80	-
R10102500	25	370	300	30,70	-
R10103000	30	400	320	36,10	-
R10104000	40	430	340	46,50	-
R10105000	50	460	360	56,90	-



(\*) ORM Katalog Sf : 139  
 (-) = Fiyat ve termin sorunuz.

## Mors konik saplı perçin delik raybası, sol helis kanallı

DIN  
311

HSS



1/10



k11

N



25°



1~4

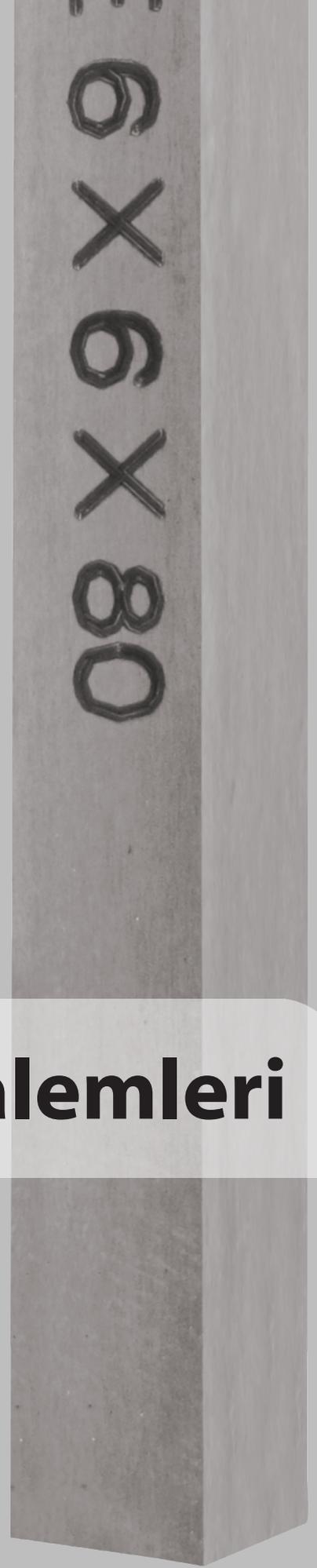


Ürün Kodu	d <sub>1</sub> mm	L <sub>1</sub> mm	L <sub>2</sub> mm	Mors Konik	TL/Adet (*)
R11101000	10	171	95	1	-
R11101800	12	199	105	2	-
R11101300	13	219	105	2	-
R11101500	15	229	125	2	-
R11101600	16	251	135	2	-
R11101700	17	261	135	3	-
R11101800	18	261	145	3	-
R11101900	19	261	145	3	-
R11102000	20	271	155	3	-
R11102100	21	271	155	3	-
R11102200	22	281	165	3	-
R11102400	24	296	180	3	-
R11102600	26	296	180	3	-
R11102800	28	311	195	3	-
R11103000	30	311	195	3	-
R11103200	32	354	210	4	-
R11103400	34	364	220	4	-
R11103600	36	364	220	4	-
R11103800	38	374	230	4	-
R11104000	40	374	230	4	-
R11104200	42	374	230	4	-
R11104400	44	384	240	4	-
R11104600	46	384	240	4	-

(\*) ORM Katalog Sf: 140

(-) = Fiyat ve termin sorunuz.

# Torna Kalemleri



Torna Kalemleri



**MERMERLER**  
ŞİRKETLER GRUBU

**ORM**

## Torna kalemleri, yuvarlak kesitli - Tip A

DIN  
4964

HSS-E



ORM Katalog Sf: 222  
Stok ve termin sorunuz.

Ürün Kodu	d x L mm	TL/Adet
T01200400	4 x 63	306,74
T01200401	4 x 80	340,67
T01200402	4 x 100	369,25
T01200502	5 x 100	374,52
T01200602	6 x 100	391,66
T01200802	8 x 100	503,66
T01200803	8 x 125	564,33
T01201002	10 x 100	601,43
T01201003	10 x 125	736,84
T01201202	12 x 100	907,93
T01201203	12 x 125	1.169,19
T01201204	12 x 160	1.539,20
T01201402	14 x 100	1.295,89
T01201403	14 x 125	1.553,32
T01201603	16 x 125	1.869,27
T01201604	16 x 160	2.319,50
T01201605	16 x 200	3.640,97
T01202004	20 x 160	3.999,35
T01202005	20 x 200	4.696,17

## Sertleştirilmiş ve Taşlanmış Pim



HSS

HRc  
63-65

h8



Ürün Kodu	d mm	L mm	TL/Adet
T10100100	1,0	90	89,35
T10100150	1,5	90	93,03
T10100160	1,6	90	101,21
T10100180	1,8	90	105,15
T10100200	2,0	90	107,07
T10100210	2,1	90	111,24
T10100220	2,2	90	111,24
T10100230	2,3	90	120,69
T10100240	2,4	90	128,72
T10100250	2,5	95	130,71
T10100270	2,7	100	150,52
T10100280	2,8	100	150,52
T10100300	3,0	100	150,52
T10100330	3,3	106	158,29
T10100350	3,5	112	166,08
T10100380	3,8	112	176,19
T10100400	4,0	120	176,19
T10100500	5,0	132	217,57
T10100600	6,0	140	284,75

## Torna kalemleri, kare kesitli - Tip B

DIN  
4964

HSS-E

B

Ürün Kodu	b1 x b1 x L mm	TL/Adet
T02200400	4 x 4 x 63	245,39
T02200401	4 x 4 x 80	278,48
T02200500	5 x 5 x 63	309,49
T02200501	5 x 5 x 80	345,34
T02200600	6 x 6 x 63	284,09
T02200601	6 x 6 x 80	305,74
T02200602	6 x 6 x 100	346,86
T02200801	8 x 8 x 80	525,72
T02200802	8 x 8 x 100	579,47
T02200803	8 x 8 x 125	655,36
T02200804	8 x 8 x 160	778,30
T02200805	8 x 8 x 200	1.113,61
T02201002	10 x 10 x 100	803,02
T02201003	10 x 10 x 125	904,34
T02201004	10 x 10 x 160	1.121,15
T02201005	10 x 10 x 200	1.423,95
T02201202	12 x 12 x 100	983,90
T02201203	12 x 12 x 125	1.158,57
T02201204	12 x 12 x 160	1.434,73
T02201205	12 x 12 x 200	1.752,65
T02201403	14 x 14 x 125	1.626,72
T02201404	14 x 14 x 160	1.680,35
T02201405	14 x 14 x 200	2.094,00
T02201603	16 x 16 x 125	1.727,17
T02201604	16 x 16 x 160	2.149,66
T02202004	20 x 20 x 160	3.284,77
T02202005	20 x 20 x 200	4.042,91



ORM Katalog Sf : 223  
Stok ve termin sorunuz.

## Torna kalemleri, dikdörtgen kesitli - Tip D

DIN  
4964

HSS-E

D



Ürün Kodu	b x d x L mm	TL/Adet
T04201004	10 x 4 x 200	-
T04201206	12 x 6 x 200	-
T04201208	12 x 8 x 200	-
T04201210	12 x 10 x 200	-
T04201606	16 x 6 x 200	-
T04201608	16 x 8 x 200	-
T04201610	16 x 10 x 200	-
T04202008	20 x 8 x 200	-
T04202010	20 x 10 x 200	-
T04202012	20 x 12 x 200	-
T04202508	25 x 8 x 200	-
T04202510	25 x 10 x 200	-
T04202512	25 x 12 x 200	-
T04203010	30 x 10 x 200	-
T04203012	30 x 12 x 200	-

(-) = Fiyat ve termin sorunuz.

## Torna kalemleri, trapez kesitli, inch - Tip E

DIN  
4964

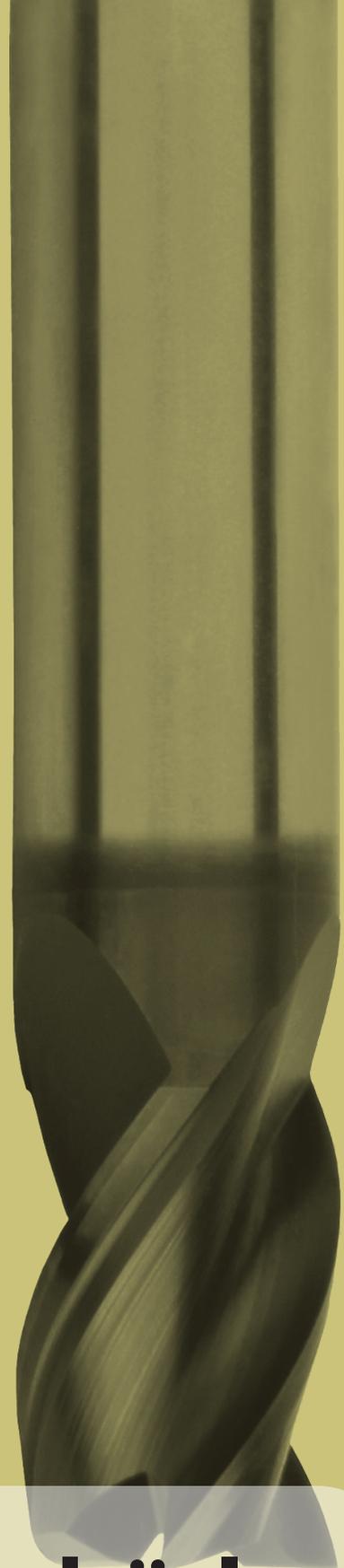
HSS-E

E



Ürün Kodu	b1 x b2 x L Inch	TL/Adet
T03200201	1/2" x 1/8" x 6"	-
T03200301	5/8" x 5/32" x 6"	-
T03200401	3/4" x 3/16" x 6"	-
T03200501	7/8" x 3/16" x 6"	-
T03200601	1" x 7/32" x 6"	-

ORM Katalog Sf: 225



# Karbürler



MERMERLER  
ŞİRKETLER GRUBU

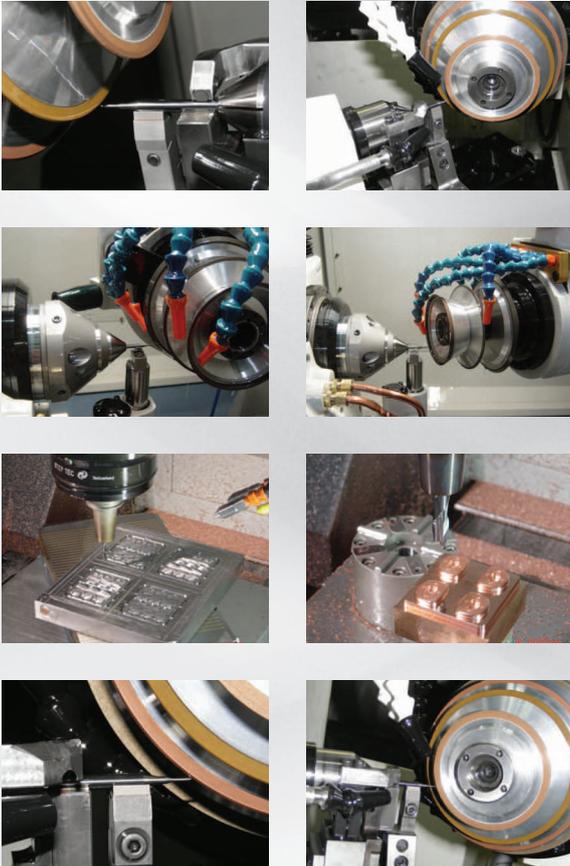
ORM

Karbürler

# ORM



## Uygulamalar / Applications



DIN  
6535  
HA

DIN  
6535  
HB

3xd  
5xd

Standart  
Standard



Kesme Yönü  
Cutting Direction



Tolerans  
Tolerance



Helis Açısı  
Helix Angle



Uç Açısı  
Point Angle

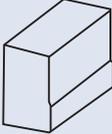
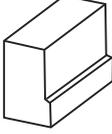
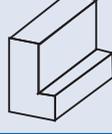
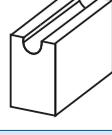
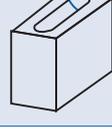


Uç Geometrisi  
Point Geometry



Uygulama  
Application

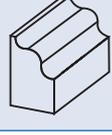
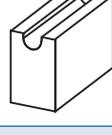
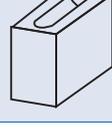
## KOMPLE SERT METAL FREZELERİN KULLANIM YERİ İÇİN ÖNERİLER RECOMMENDATIONS FOR THE USAGE OF THE SOLID CARBIDE END MILLS

Freze Tipi Type of end mill	Operasyon Şekli Type of the operation	Parmak Freze z = 2	Parmak Freze z = 3	Parmak Freze z = 4	Finiş Freze z = 6
					
Çok Temiz İşleme					
					
Kaba İşleme					
					
Havuz Boşaltma					

  
Kullanıma Uygun  
Recommended for usage

  
Zaruri Durumda Kullanılabilir  
Can be used in emergency

  
Tavsiye Edilmez  
Not recommended

Freze Tipi Type of end mill	Operasyon Şekli Type of the operation	Alın Radiuslu z = 2	Alın Radiuslu z = 4	Form Radiuslu z = 2	Form Radiuslu z = 4	Talaş Kırıcılı z = 2
						
Form Frezeleme						
						
Havuz Boşaltma						

NOT : Kesici boy; çalışma yeri uygunluğu açısından çok önemlidir.

Örneğin, kısa kesici boy yüksek stabilite ve iyi sonuç alınmasına yol açar.

REMARK : Cutting length is very important for the suitability of the usage.

For example, a short cutting length leads to high stability and good results.

## KESME HESAPLARI VE TANIMLAR / CUTTING PARAMETER CALCULATION AND DEFINITIONS

### TERMİNOLOJİ VE FORMÜLLER / TERMINOLOGY AND FORMULAS

Devir / Rotation
$n = \frac{V_c \times 1000}{\pi \times D_c} \text{ (RPM)}$

Tabla İlerlemesi / Feed Rate
$V_f = n \times z_n \times f_z \text{ (mm/dak) / (mm/min)}$

Kesme Hızı / Cutting Speed
$V_c = \frac{n \times \pi \times D_c}{1000} \text{ (m/dak) / (m/min)}$

Talaş Kaldırma / Chip Volume Ratio
$Q = \frac{a_e \times a_p \times v_f}{1000} \text{ (cm}^3\text{/dak.) (m}^3\text{/min)}$

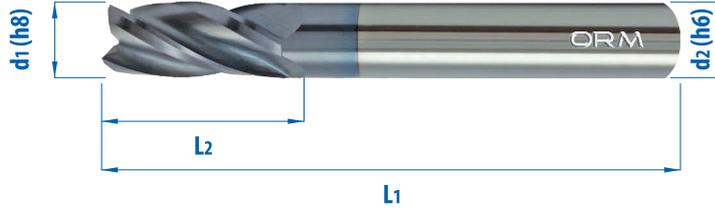
<b>ae</b>	Radyal Kesme Genişliği (mm) / Radial Cutting Width (mm)
<b>ap</b>	Eksenel Kesme Derinliği (mm) / Axial Cutting Depth (mm)
<b>Dc</b>	Kesici Çapı (mm) / Cutting Diameter (mm)
<b>f</b>	Devir Başına İlerleme (mm/dev) / Feed Per Revolution (mm/rev)
<b>fz</b>	Ağız Başına İlerleme (mm/dev) Feed Per Tooth
<b>Zn</b>	Ağız Sayısı / Number of Teeth
<b>n</b>	Devir / Rotation (RPM)
<b>Q</b>	Talaş Kaldırma Oranı (cm <sup>3</sup> /dak.) / Chip volume ratio (cm <sup>3</sup> /min)
<b>Vc</b>	Kesme Hızı (cm <sup>3</sup> /min) / Cutting Speed (m/min)
<b>Vf</b>	Tabla İlerlemesi (mm/dak) / Feed Rate (mm/min)

## KARBÜR FREZE / CARBIDE END MILL

### GENEL KULLANIM / GENERAL USE



≤ 45 HRC



Z <sub>2</sub> Ürün Kodu Z <sub>2</sub> Order Number	Z <sub>3</sub> Ürün Kodu Z <sub>3</sub> Order Number	Z <sub>4</sub> Ürün Kodu Z <sub>4</sub> Order Number	d <sub>1</sub> (h8) mm	L <sub>2</sub> mm	d <sub>2</sub> (h6) mm	L <sub>1</sub> mm	Z	€ / Adet € / Price
FF02940200	FF02940201	FF02940202	2	6	3	40	Z2 - Z3 - Z4	-
FF02940300	FF02940301	FF02940302	3	7	3	50	Z2 - Z3 - Z4	36,39
FF02940400	FF02940401	FF02940402	4	11	4	50	Z2 - Z3 - Z4	38,79
FF02940500	FF02940501	FF02940502	5	13	5	50	Z2 - Z3 - Z4	40,91
FF02940600	FF02940601	FF02940602	6	13	6	57	Z2 - Z3 - Z4	58,90
FF02940800	FF02940801	FF02940802	8	20	8	63	Z2 - Z3 - Z4	67,58
FF02941000	FF02941001	FF02941002	10	21	10	72	Z2 - Z3 - Z4	121,28
FF02941200	FF02941201	FF02941202	12	25	12	83	Z2 - Z3 - Z4	152,47
FF02941400	FF02941401	FF02941402	14	25	14	83	Z2 - Z3 - Z4	202,72
FF02941600	FF02941601	FF02941602	16	32	16	92	Z2 - Z3 - Z4	301,46
FF02941800	FF02941801	FF02941802	18	32	18	92	Z2 - Z3 - Z4	412,35
FF02942000	FF02942001	FF02942002	20	40	20	104	Z2 - Z3 - Z4	433,14
FF02942500	FF02942501	FF02942502	25	38	25	110	Z2 - Z3 - Z4	-

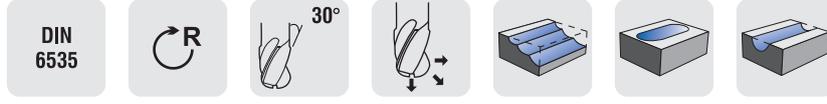
Malzeme Material	Çekme Mukavemeti Sertlik/ Tensile Strength, Hardness	"Kesme Değeri" Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)										
			Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20	
Çelik Steel	Alaşsız çelik / Unalloyed Steel	<450	70-90	0.006	0.009	0.012	0.02	0.025	0.03	0.038	0.045	0.045	0.045
	İmalat Çeliği / Free Cutting Steel	450-550	70-90	0.006	0.009	0.012	0.02	0.025	0.03	0.038	0.045	0.045	0.045
	İslah Çeliği / Heat Treatment Steel	550-900	50-70	0.005	0.008	0.01	0.018	0.025	0.03	0.038	0.045	0.045	0.045
	Soğuk İş Takım Çeliği / Tool Steel	900-1200	30-50	0.005	0.008	0.01	0.018	0.025	0.03	0.038	0.045	0.045	0.045
Döküm Cast Iron	Sıcak İş Takım Çeliği Heat Treatment Tool Steel	900-1200	30-50	0.005	0.008	0.01	0.018	0.025	0.03	0.038	0.045	0.045	0.045
	GG10 - GG20	≤ 240	70-90	0.007	0.015	0.02	0.025	0.03	0.04	0.045	0.05	0.05	0.05
	GG25 - GG35	<300	60-80	0.006	0.009	0.012	0.02	0.025	0.03	0.038	0.045	0.045	0.045
Demir Dışı Materyal Non Ferrous Material	Sféro ve Temper	≤ 240 / <300	250-300	0.006	0.009	0.012	0.02	0.025	0.03	0.038	0.045	0.045	0.045
	Alüminyum Alaşım / Aluminium Alloy	≤ 400	250-300	0.014	0.025	0.03	0.045	0.06	0.07	0.08	0.1	0.1	0.1
	Bakır Alaşım / Copper Alloy	150-250	250-300	0.014	0.025	0.03	0.045	0.06	0.07	0.08	0.1	0.1	0.1
	Magnezyum Alaşım / Magnesium Alloy	150-250	250-300	0.014	0.025	0.03	0.045	0.06	0.07	0.08	0.1	0.1	0.1
Al-döküm alaşımları / Al-cast alloys	≤ 600	250-300	0.014	0.025	0.03	0.045	0.06	0.07	0.08	0.1	0.1	0.1	

Cutting parameters may be changed according to application. The products in this catalogue are coated. Please ask quotation and supply termine your uncoated ones.  
Kesme parametrelerinde tecrübeye dayalı değişiklik yapılabilir. Bu katalogtaki ürünler kaplamalıdır. Kaplamasız ürünler için fiyat ve termin sorunuz.

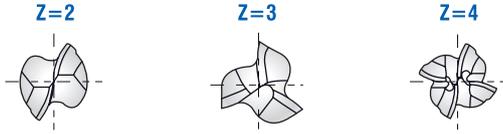
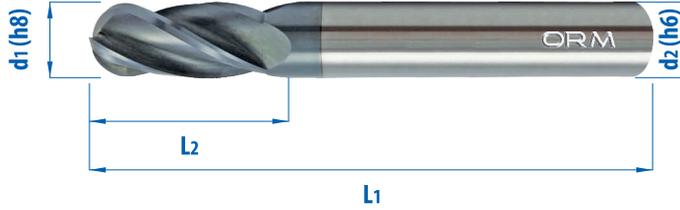


## KARBÜR FREZE / CARBIDE END MILL

GENEL KULLANIM, KÜRESEL / GENERAL USE, BALL NOSE



≤ 45 HRC



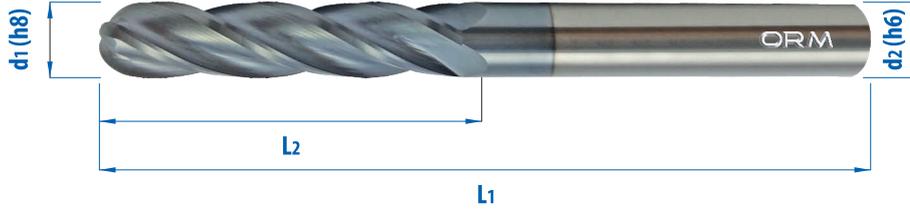
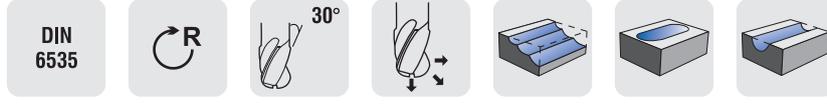
Z <sub>2</sub> Ürün Kodu Z <sub>2</sub> Order Number	Z <sub>3</sub> Ürün Kodu Z <sub>3</sub> Order Number	Z <sub>4</sub> Ürün Kodu Z <sub>4</sub> Order Number	d <sub>1</sub> (h8) mm	L <sub>2</sub> mm	d <sub>2</sub> (h6) mm	L <sub>1</sub> mm	Z	€ / Adet € / Price
FF10940300	FF10940301	FF10940302	3	8	3	39	Z2 - Z3 - Z4	45,05
FF10940400	FF10940401	FF10940402	4	11	4	50	Z2 - Z3 - Z4	49,19
FF10940500	FF10940501	FF10940502	5	13	5	50	Z2 - Z3 - Z4	56,12
FF10940600	FF10940601	FF10940602	6	13	6	58	Z2 - Z3 - Z4	63,77
FF10940800	FF10940801	FF10940802	8	20	8	64	Z2 - Z3 - Z4	85,95
FF10941000	FF10941001	FF10941002	10	21	10	73	Z2 - Z3 - Z4	127,54
FF10941200	FF10941201	FF10941202	12	25	12	84	Z2 - Z3 - Z4	167,71
FF10941400	FF10941401	FF10941402	14	25	14	84	Z2 - Z3 - Z4	285,87
FF10941600	FF10941601	FF10941602	16	32	16	93	Z2 - Z3 - Z4	410,28
FF10941800	FF10941801	FF10941802	18	32	18	93	Z2 - Z3 - Z4	521,52
FF10942000	FF10942001	FF10942002	20	38	20	100	Z2 - Z3 - Z4	555,83

Malzeme Material	Çekme Mukavemeti Sertlik/ Tensile Strength, Hardness	"Kesme Değeri" Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)										
			Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20	
Çelik Steel	Alaşsız çelik / Unalloyed Steel	<450	120-140	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	İmalat Çeliği / Free Cutting Steel	450-550	90-110	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	İslah Çeliği / Heat Treatment Steel	550-900	80-100	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	Soğuk İş Takım Çeliği / Tool Steel	900-1200	70-90	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
Döküm Cast Iron	Sıcak İş Takım Çeliği Heat Treatment Tool Steel	900-1200	60-80	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	GG10 - GG20	≤ 240	100-120	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	GG25 - GG35	<300	90-110	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
Demir Dışı Materyal Non Ferrous Material	Sfero ve Temper	≤ 240 / <300	80-100	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	Alüminyum Alaşım / Aluminium Alloy	≤ 400	250-300	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12
	Bakır Alaşım / Copper Alloy	150-250	240-300	0.014	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12
	Magnezyum Alaşım / Magnesium Alloy	150-250	250-300	0.014	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12
	Al-döküm alaşımları / Al-cast alloys	≤ 600	250-300	0.014	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12

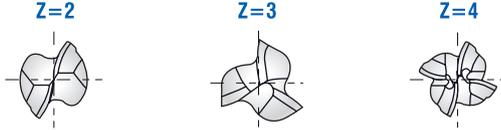
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Kesme parametrelerinde tecrübeye dayalı değişiklik yapılabilir. Bu katalogtaki ürünler kaplamalıdır. Kaplamasız ürünler için fiyat ve termin sorunuz.

## KARBÜR FREZE UZUN / CARBIDE END MILL LONG

GENEL KULLANIM, KÜRESEL / GENERAL USE, BALL NOSE



≤ 45 HRC



Z <sub>2</sub> Ürün Kodu Z <sub>2</sub> Order Number	Z <sub>3</sub> Ürün Kodu Z <sub>3</sub> Order Number	Z <sub>4</sub> Ürün Kodu Z <sub>4</sub> Order Number	d <sub>1</sub> (h8) mm	L <sub>2</sub> mm	d <sub>2</sub> (h6) mm	L <sub>1</sub> mm	Z	€ / Adet € / Price
FF11940300	FF11940301	FF11940302	3	20	3	60	Z2 - Z3 - Z4	84,89
FF11940400	FF11940401	FF11940402	4	20	4	60	Z2 - Z3 - Z4	103,95
FF11940500	FF11940501	FF11940502	5	20	5	60	Z2 - Z3 - Z4	115,02
FF11940600	FF11940601	FF11940602	6	31	6	75	Z2 - Z3 - Z4	124,74
FF11940800	FF11940801	FF11940802	8	40	8	100	Z2 - Z3 - Z4	192,32
FF11941000	FF11941001	FF11941002	10	40	10	110	Z2 - Z3 - Z4	221,77
FF11941200	FF11941201	FF11941202	12	45	12	110	Z2 - Z3 - Z4	242,56
FF11941400	FF11941401	FF11941402	14	75	14	150	Z2 - Z3 - Z4	-
FF11941600	FF11941601	FF11941602	16	75	16	150	Z2 - Z3 - Z4	-
FF11941800	FF11941801	FF11941802	18	75	18	150	Z2 - Z3 - Z4	-
FF11942000	FF11942001	FF11942002	20	75	20	150	Z2 - Z3 - Z4	-

(-) = fiyat ve stok sorunuz.

Malzeme Material	Çekme Mukavemeti Sertlik/ Tensile Strength, Hardness	"Kesme Değeri" Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)										
			Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20	
Çelik Steel	Alaşımsız çelik / Unalloyed Steel	<450	100-120	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	İmalat Çeliği / Free Cutting Steel	450-550	70-90	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	İslah Çeliği / Heat Treatment Steel	550-900	60-80	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	Soğuk İş Takım Çeliği / Tool Steel	900-1200	50-70	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
Döküm Cast Iron	Sıcak İş Takım Çeliği Heat Treatment Tool Steel	900-1200	40-60	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	GG10 - GG20	≤ 240	100-120	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	GG25 - GG35	<300	90-110	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
Demir Dışı Non Ferrous Material	Sfero ve Temper	≤ 240 / <300	80-100	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.09	0.11	0.12
	Alüminyum Alaşım / Aluminium Alloy	≤ 400	250-300	0.015	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12
	Bakır Alaşım / Copper Alloy	150-250	240-300	0.014	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12
	Magnezyum Alaşım / Magnesium Alloy	150-250	250-300	0.014	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12
	Al-döküm alaşımları / Al-cast alloys	≤ 600	250-300	0.014	0.025	0.035	0.045	0.06	0.07	0.08	0.1	0.12	0.12

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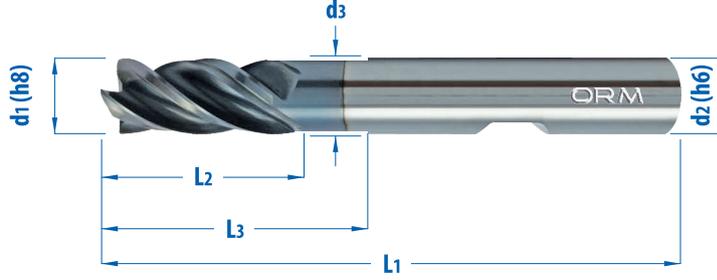
Kesme parametrelerinde tecrübeye dayalı değişiklik yapılabilir. Bu katalogtaki ürünler kaplamalıdır. Kaplamasız ürünler için fiyat ve termin sorunuz.

## KARBÜR FREZE / CARBIDE END MILL

YÜKSEK HACİMLİ TİTREŞİMSİZ TALAŞ KALDIRMA / CHATTER FREE HIGH CHIP REMOVAL

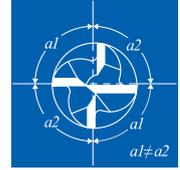


≤45-50 HRC



(FARKLI BÖLÜNTÜLÜ)

Z=4



Z4 Ürün Kodu Z4 Order Number	d <sub>1</sub> (h8) mm	L <sub>2</sub> mm	L <sub>3</sub> mm	d <sub>z</sub> (h6) mm	d <sub>3</sub> mm	L <sub>1</sub> mm	ch	Z	€/ Adet €/ Price
FF25950600	6	14	16	6	5,8	58	0,2	Z4	70,68
FF25950800	8	20	25	8	7,8	64	0,2	Z4	104,63
FF25951000	10	21	25	10	9,8	72	0,5	Z4	149,01
FF25951200	12	25	35	12	11,6	84	0,5	Z4	178,79
FF25951400	14	25	35	14	13,6	84	0,5	Z4	270,98
FF25951600	16	32	40	16	15,6	92	0,5	Z4	-
FF25951800	18	32	40	18	17,6	92	0,5	Z4	-
FF25952000	20	40	50	20	19,6	105	0,5	Z4	-

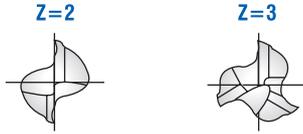
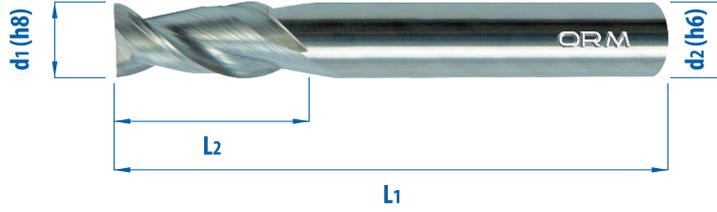
(-) = fiyat ve stok sorunuz.

Malzeme Material	Çekme Mukavemeti Sertlik/ Tensile Strength, Hardness	"Kesme Değeri" Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)											
			Ø3	Ø4	Ø5	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20	
Çelik Steel	Alaşsız çelik / Unalloyed Steel	<450	120-140	0.015	0.015	0.025	0.025	0.03	0.035	0.045	0.045	0.05	0.05	0.05
	İmalat Çeliği / Free Cutting Steel	450-550	110-130	0.015	0.015	0.025	0.025	0.03	0.035	0.045	0.045	0.05	0.05	0.05
	İslah Çeliği / Heat Treatment Steel	550-900	100-120	0.01	0.01	0.02	0.02	0.025	0.03	0.04	0.04	0.04	0.04	0.04
	Soğuk İş Takım Çeliği / Tool Steel	900-1200	100-120	0.01	0.01	0.02	0.02	0.025	0.03	0.04	0.04	0.04	0.04	0.04
	Sıcak İş Takım Çeliği Heat Treatment Tool Steel	900-1200	70-90	0.01	0.01	0.02	0.02	0.025	0.03	0.04	0.04	0.04	0.04	0.04
Döküm Cast Iron	GG10 - GG20	≤ 240	110-130	0.02	0.02	0.025	0.025	0.03	0.04	0.045	0.045	0.05	0.06	0.06
	GG25 - GG35	<300	110-130	0.02	0.02	0.025	0.025	0.03	0.04	0.045	0.045	0.05	0.06	0.06
	Sfero ve Temper	≤ 240 / <300	90-110	0.02	0.02	0.025	0.025	0.03	0.04	0.05	0.05	0.06	0.07	0.07

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## KARBÜR FREZE / CARBIDE END MILL ALÜMİNYUM FREZE / END MILLS ALUMINIUM



Z <sub>2</sub> Ürün Kodu Z <sub>2</sub> Order Number	Z <sub>3</sub> Ürün Kodu Z <sub>3</sub> Order Number	d <sub>1</sub> (h8) mm	L <sub>2</sub> mm	d <sub>2</sub> (h6) mm	L <sub>1</sub> mm	Z	€ / Adet € / Price
FF01900201	FF01900202	2	6	3	39	Z2 - Z3	-
FF01900301	FF01900302	3	6	3	39	Z2 - Z3	34,65
FF01900401	FF01900402	4	11	4	50	Z2 - Z3	38,11
FF01900501	FF01900502	5	13	5	50	Z2 - Z3	41,59
FF01900601	FF01900602	6	13	6	57	Z2 - Z3	50,24
FF01900801	FF01900802	8	19	8	63	Z2 - Z3	72,78
FF01901001	FF01901002	10	22	10	72	Z2 - Z3	107,43
FF01901201	FF01901202	12	26	12	83	Z2 - Z3	135,14
FF01901401	FF01901402	14	26	14	83	Z2 - Z3	-
FF01901601	FF01901602	16	32	16	92	Z2 - Z3	-
FF01901801	FF01901802	18	32	18	92	Z2 - Z3	-
FF01902001	FF01902002	20	38	20	105	Z2 - Z3	-

(-) = fiyat ve stok sorunuz.

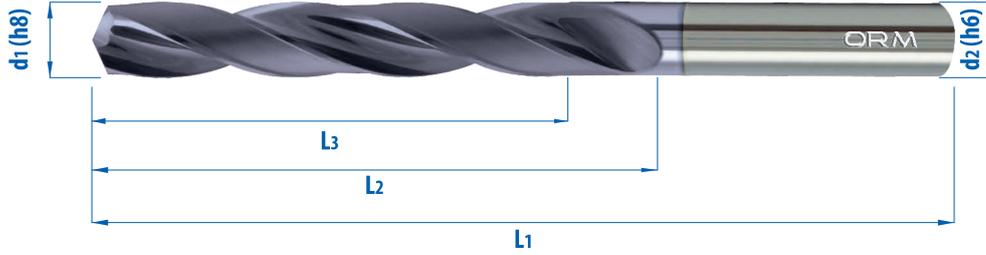
Malzeme Material	Alaşım Alloy	"Kesme Değeri Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)											
			Ø2	Ø3	Ø4	Ø5	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20
Alüminyum Aluminium	<% 10 Si	450	0.03	0.03	0.04	0.06	0.07	0.08	0.1	0.12	0.15	0.15	0.2	0.2
	>% 10 Si	300	0.04	0.04	0.05	0.05	0.06	0.1	0.12	0.15	0.16	0.18	0.2	0.2
Bakır Copper		300	0.03	0.03	0.04	0.06	0.07	0.08	0.1	0.12	0.15	0.15	0.2	0.2
Plastik Plastic		300	0.07	0.08	0.1	0.1	0.12	0.15	0.18	0.2	0.2	0.22	0.22	0.25

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## KARBÜR MATKAP / CARBIDE DRILL

### STANDART MATKAP 3xd / SOLID CARBIDE DRILL 3xd



Ürün Kodu Order Number	d1 (h8) mm	L3 mm	L2 mm	d2 (h6) mm	L1 mm	€ / Adet € / Price
MM01940300	3	14	20	3	46	64,33
MM01940350	3,5	14	20	4	52	64,33
MM01940400	4	17	24	4	52	64,33
MM01940450	4,5	17	24	6	66	72,40
MM01940500	5	20	28	6	66	72,40
MM01940550	5,5	20	28	6	66	82,00
MM01940600	6	20	28	6	66	82,00
MM01940650	6,5	24	34	8	78	91,55
MM01940700	7	24	34	8	79	91,55
MM01940750	7,5	29	41	8	79	96,69
MM01940800	8	29	41	8	79	96,69
MM01940850	8,5	35	47	10	89	126,81
MM01940900	9	35	47	10	89	126,81
MM01940950	9,5	35	47	10	89	145,21
MM01941000	10	35	47	10	89	145,21
MM01941050	10,5	40	55	12	102	186,37
MM01941100	11	40	55	12	102	195,57

Ürün Kodu Order Number	d1 (h8) mm	L3 mm	L2 mm	d2 (h6) mm	L1 mm	€ / Adet € / Price
MM01941150	11,5	40	55	12	102	211,39
MM01941200	12	40	55	12	102	211,39
MM01941250	12,5	43	60	13	107	251,46
MM01941300	13	43	60	13	107	266,19
MM01941350	13,5	43	60	14	107	274,99
MM01941400	14	43	60	14	107	279,52
MM01941450	14,5	45	65	16	115	-
MM01941500	15	45	65	16	115	-
MM01941550	15,5	45	65	16	115	-
MM01941600	16	45	65	16	115	-
MM01941650	16,5	52	73	18	123	-
MM01941700	17	52	73	18	123	-
MM01941750	17,5	52	73	18	123	-
MM01941800	18	52	73	18	123	-
MM01941850	18,5	55	79	20	131	-
MM01941900	19	55	79	20	131	-
MM01941950	19,5	55	79	20	131	-
MM01942000	20	55	79	20	131	-

(-) = fiyat ve stok sorunuz.

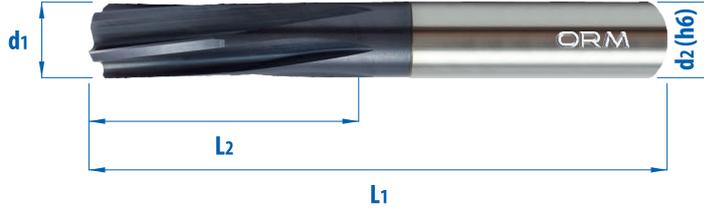
Malzeme Material	Çekme Mukavemeti Sertlik/ Tensile Strength, Hardness	"Kesme Değeri" Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)										
			Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20	
Çelik Steel	Alaşımsız çelik / Unalloyed Steel	<450	80-120	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	İmalat Çeliği / Free Cutting Steel	450-550	70-110	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	İslah Çeliği / Heat Treatment Steel	550-900	80-100	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	Soğuk İş Takım Çeliği / Tool Steel	900-1200	70-90	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	Sıcak İş Takım Çeliği Heat Treatment Tool Steel	900-1200	70-90	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
Döküm Cast Iron	GG10 - GG20	≤ 240	120-140	0.05	0.14	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	GG25 - GG35	<300	100-120	0.05	0.14	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Sfero ve Temper	≤ 240 / <300	100-120	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.35	0.4	0.4
Demir Dışı Non Ferrous Material	Alüminyum Alaşım / Aluminium Alloy	≤ 400	160-180	0.06	0.16	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Bakır Alaşım / Copper Alloy	150-250	160-180	0.06	0.16	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Magnezyum Alaşım / Magnesium Alloy	150-250	160-180	0.06	0.16	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Al-döküm alaşımları / Al-cast alloys	≤ 600	140-160	0.05	0.14	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5

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## KARBÜR RAYBA / CARBIDE REAMER HELİS / HELICAL

DIN  
6535



Ürün Kodu Order Number	d1 mm	L2 mm	L3 mm	dz (h6) mm	L1 mm	Z	€ / Adet € / Price
RR01 940300	3	12	40	4	61	4	-
RR01 940400	4	16	50	4	75	4	-
RR01 940500	5	20	56	5	86	6	-
RR01 940600	6	24	56	6	93	6	-
RR01 940700	7	28	62	7	109	6	-
RR01 940800	8	32	66	8	117	6	-
RR01 940900	9	36	60	9	125	6	-
RR01 941000	10	38	65	10	133	6	-
RR01 941100	11	41	70	11	142	6	-
RR01 941200	12	44	75	12	151	6	-
RR01 941300	13	44	75	13	151	6	-
RR01 941400	14	47	80	14	160	6	-
RR01 941500	15	50	80	15	165	6	-
RR01 941600	16	52	80	16	165	8	-
RR01 941800	18	56	80	18	165	8	-
RR01 942000	20	60	80	20	165	8	-

(-) = fiyat ve stok sorunuz.

Malzeme Material	Çekme Mukameveti Sertlik/ Tensile Strength, Hardness	"Kesme Değeri" Cutting Speed Vc=m/dk"	İlerleme Fz (mm/dev) Feed Fz (mm/rev)										
			Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø18	Ø20	
Çelik Steel	Alaşsız çelik / Unalloyed Steel	<450	25-35	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	İmalat Çeliği / Free Cutting Steel	450-550	25-35	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	İslah Çeliği / Heat Treatment Steel	550-900	20-25	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	Soğuk İş Takım Çeliği / Tool Steel	900-1200	15-20	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
	Sıcak İş Takım Çeliği Heat Treatment Tool Steel	900-1200	15-20	0.04	0.06	0.1	0.2	0.25	0.3	0.35	0.35	0.4	0.4
Döküm Cast Iron	GG10 - GG20	≤ 240	20-30	0.05	0.14	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	GG25 - GG35	<300	20-30	0.05	0.14	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Sfero ve Temper	≤ 240 / <300	20-25	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.35	0.4	0.4
Demir Dışı Non Ferrous Material	Alüminyum Alaşım / Aluminium Alloy	≤ 400	50-70	0.06	0.16	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Bakır Alaşım / Copper Alloy	150-250	50-70	0.06	0.16	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Magnezyum Alaşım / Magnesium Alloy	150-250	50-70	0.06	0.16	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5
	Al-döküm alaşımları / Al-cast alloys	≤ 600	50-70	0.05	0.14	0.2	0.25	0.35	0.4	0.45	0.45	0.5	0.5

Cutting parameters may be changed according to application. The products in this catalogue are coated. Please ask quotation and supply termine your uncoated ones.  
Kesme parametrelerinde tecrübeye dayalı değişiklik yapılabilir. Bu katalogtaki ürünler kaplamalıdır. Kaplamasız ürünler için fiyat ve termin sorunuz.



## Bileme Fiyat Listesi

### DÜZ FREZE Z2 - Z3 - Z4

Ø (mm) Aralığı	Alın Bileme	Komple Bileme	Alın Bileme + Kaplama	Komple Bileme + Kaplama
Ø4 - Ø6	5,39 €	10,01 €	8,62 €	13,22 €
Ø6.1 - Ø8	8,45 €	10,76 €	12,08 €	14,38 €
Ø8.1 - Ø10	10,01 €	11,53 €	13,79 €	15,35 €
Ø10.1 - Ø12	11,69 €	15,84 €	16,02 €	20,17 €
Ø12.1 - Ø14	13,07 €	18,00 €	18,49 €	23,40 €
Ø14.1 - Ø16	15,22 €	19,83 €	22,42 €	27,06 €
Ø16.1 - Ø18	18,29 €	23,07 €	27,58 €	32,35 €
Ø18.1 - Ø20	19,22 €	27,51 €	28,51 €	36,81 €

- 4xD'den uzun helisi olan frezeler için lütfen fiyat sorunuz.

### KÖŞE RADIUSLU VE KÜRESEL BAŞLI FREZE Z2 - Z3 - Z4

Ø (mm) Aralığı	Alın Bileme	Komple Bileme	Alın Bileme + Kaplama	Komple Bileme + Kaplama
Ø4 - Ø6	7,46 €	14,61 €	10,69 €	17,86 €
Ø6.1 - Ø8	10,60 €	16,14 €	14,23 €	19,76 €
Ø8.1 - Ø10	12,13 €	19,22 €	15,96 €	23,02 €
Ø10.1 - Ø12	16,76 €	22,00 €	21,10 €	26,33 €
Ø12.1 - Ø14	18,44 €	24,44 €	23,86 €	29,85 €
Ø14.1 - Ø16	20,77 €	29,05 €	27,96 €	36,17 €
Ø16.1 - Ø18	23,07 €	33,67 €	32,35 €	42,96 €
Ø18.1 - Ø20	25,37 €	41,36 €	34,65 €	50,66 €

- 4xD'den uzun helisi olan frezeler için lütfen fiyat sorunuz.

### MATKAP 3xD

### MATKAP 5xD

Ø (mm) Aralığı	Alın Bileme	Bileme + Kaplama	Ø (mm) Aralığı	Alın Bileme	Bileme + Kaplama
Ø4 - Ø6	6,92 €	10,45 €	Ø4 - Ø6	9,00 €	14,40 €
Ø6.1 - Ø8	9,68 €	13,60 €	Ø6.1 - Ø8	12,58 €	18,63 €
Ø8.1 - Ø10	10,76 €	14,89 €	Ø8.1 - Ø10	14,00 €	20,34 €
Ø10.1 - Ø12	11,84 €	16,54 €	Ø10.1 - Ø12	15,39 €	22,63 €
Ø12.1 - Ø14	13,07 €	18,92 €	Ø12.1 - Ø14	16,98 €	25,99 €
Ø14.1 - Ø16	15,37 €	23,19 €	Ø14.1 - Ø16	19,99 €	32,02 €
Ø16.1 - Ø20	26,76 €	36,81 €	Ø16.1 - Ø20	34,76 €	50,24 €

- 5xD'den uzun helisi olan takımlar için lütfen fiyat sorunuz.

### BİLEME HİZMETİMİZİN KAPSAMI

- Son teknoloji taşlama tezgahlarında hassas ve özenli bileme.
- Talep üzerine her türlü kaplama.
- Alt çap ve boyun taşlama işçiliğinde ayrıca fiyatlandırma yapılır.
- Diğer ürünler ve özel takımlar için lütfen fiyat sorunuz.
- Bilecek kesici takım miktarına göre, iskonto oranı değişkenlik gösterir.
- Standart kesici takım iskontosu geçerli değildir.



**Özel takımlar; firmaların isteklerine uygun form  
ve toleranslarda ayrıca üretilmektedir.**

**Banka Bilgilerimiz**

Hesap Adı : ORALSAN MAKİNE TAKİM SANAYİ VE TİCARET A.Ş.  
BANKA : QNB BANK A.Ş.  
ŞUBE : AVRASYA TİCARİ MERKEZ  
IBAN NO : TR44 0011 1000 0000 0062 2832 22

Bu listede yer alan fiyatlar tavsiye edilen perakende satış fiyatlarımızdır.

Fiyatlara KDV dahil değildir.

Bu listedeki matbu hatalardan firmamız sorumlu değildir.

Oralsan A.Ş. bu listede yer alan ürünlerle ilgili fiyat, ölçü ve ürün değişikliği ile iptali haklarını önceden haber vermeksizin değiştirme hakkını saklı tutar.

Ürün resimleri temsil olarak kullanılmış olup, gerçek ürünün tip ve görünümündeki farklılıklar için emsal teşkil etmez.

# "GES Üretim Tesisimiz"





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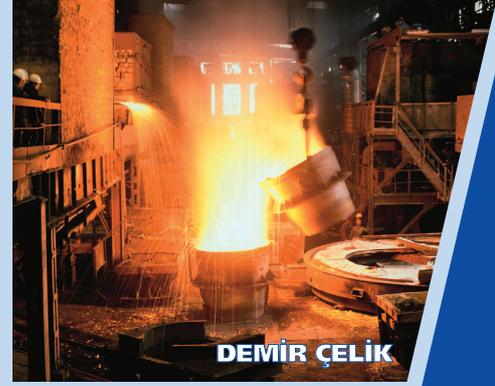
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**DEMİR ÇELİK**



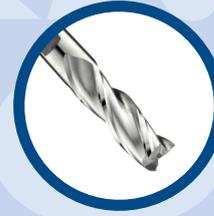
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