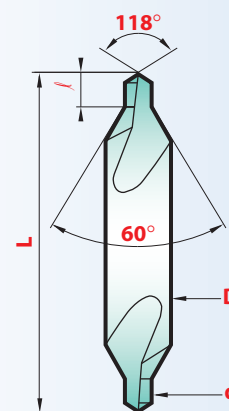
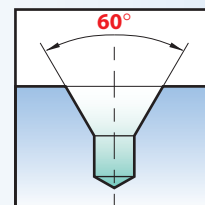
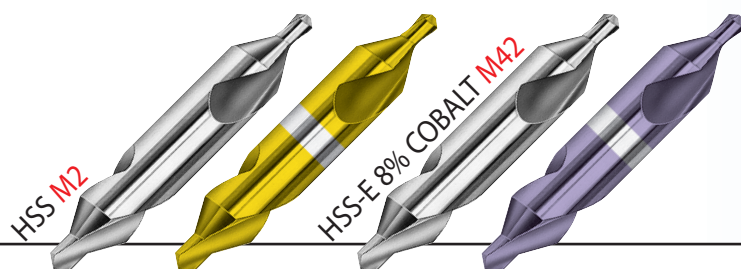


PLAIN TYPE 60° CENTER DRILLS Sizes in inches



Tool Diameters	D	d	Angle	
			60°	118°
.010 - 7/64	n/a	+ .0039		
1/8 - 7/32	-.0007	+ .0047		
1/4 - 3/8	-.0009	+ .0059	- 30'	± 2°
7/16 - 5/8	-.0011	n/a		
3/4 - 1	-.0013	n/a		

Tolerances



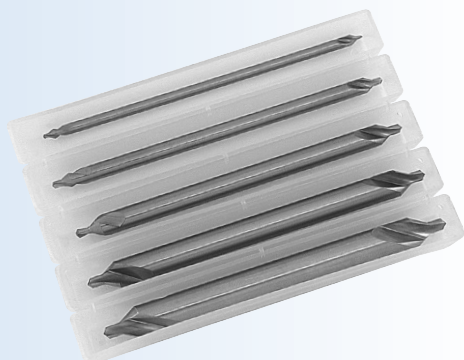
SIZE	D	d	L	I	115	TIN 08115	Cobalt + 1055	futura 091055
00000	1/8	.010	1-1/4	.008 - .018			1055005*	091055005*
0000	1/8	.015	1-1/4	.014 - .025			1055004*	091055004*
000	1/8	.020	1-1/4	.020 - .032	1150001	08115001	1055001*	091055001*
00	1/8	.025	1-1/4	.028 - .040	1150002	08115002	1055002*	091055002*
0	1/8	1/32	1-1/4	.035 - .047	1150003	08115003	1055003*	091055003*
1	1/8	3/64	1-1/4	.055 - .067	1150100	08115010	1055010	091055010
2	3/16	5/64	1-7/8	.095 - .106	1150200	08115020	1055020	091055020
3	1/4	7/64	2	.130 - .154	1150300	08115030	1055030	091055030
4	5/16	1/8	2-1/8	.150 - .175	1150400	08115040	1055040	091055040
4-1/2	3/8	9/64	2-1/2	.170 - .193	1150450	08115045		
5	7/16	3/16	2-3/4	.230 - .256	1150500	08115050	1055050	091055050
6	1/2	7/32	3	.270 - .295	1150600	08115060	1055060	091055060
7	5/8	1/4	3-1/4	.315 - .340	1150700	08115070	1055070	091055070
8	3/4	5/16	3-1/2	.390 - .420	1150800	08115080	1055080	091055080
9	7/8	11/32	3-5/8	.430 - .460	1150900	08115090		
10	1	3/8	3-3/4	.475 - .500	1151000	08115100		

* Single end tool

Longs



SIZE	D	d	L	185
1 x 3"	1/8	3/64	3	1850103
1 x 4"			4	1850104
1 x 5"			5	1850105
1 x 6"			6	1850106
2 x 3"	3/16	5/64	3	1850203
2 x 4"			4	1850204
2 x 5"			5	1850205
2 x 6"			6	1850206
3 x 3"	1/4	7/64	3	1850303
3 x 4"			4	1850304
3 x 5"			5	1850305
3 x 6"			6	1850306
4 x 3"	5/16	1/8	3	1850403
4 x 4"			4	1850404
4 x 5"			5	1850405
4 x 6"			6	1850406
4-1/2 x 4"	3/8	9/64	4	1850454
4-1/2 x 5"			5	1850455
4-1/2 x 6"			6	1850456
5 x 4"	7/16	3/16	4	1850504
5 x 5"			5	1850505
5 x 6"			6	1850506
6 x 4"	1/2	7/32	4	1850604
6 x 5"			5	1850605
6 x 6"			6	1850606
7 x 5"	5/8	1/4	5	1850705
7 x 6"			6	1850706
8 x 6"	3/4	5/16	6	1850806



SET OF 5 DRILLS / L = 4"

COMPOSITION magafor 185

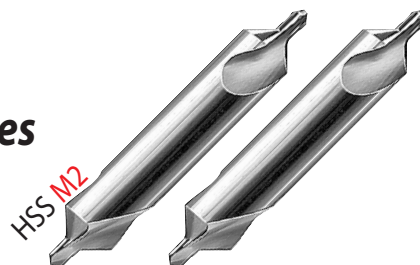
1 - 2 - 3 - 4 - 5 1 piece of each



British Standard

BS #	D	d	L	\	magafor 114
1	1/8	3/64	1-1/2	.060 - .070	1140100
2	3/16	1/16	1-3/4	.078 - .095	1140200
3	1/4	3/32	2	.114 - .135	1140300
4	5/16	1/8	2-1/8	.150 - .175	1140400
5	7/16	3/16	2-1/2	.245 - .275	1140500
6	5/8	1/4	3	.320 - .350	1140600
7	3/4	5/16	3-1/2	.390 - .425	1140700

82° - 90° Angles



SIZE	D	d	L	\	Angle 82°	90°
					154	155
1	1/8	3/64	1-1/4	.055 - .067	1540100	1550100
2	3/16	5/64	1-7/8	.095 - .106	1540200	1550200
3	1/4	7/64	2	.130 - .154	1540300	1550300
4	5/16	1/8	2-1/8	.150 - .175	1540400	1550400
5	7/16	3/16	2-3/4	.230 - .256	1540500	1550500
6	1/2	7/32	3	.270 - .295	1540600	1550600
7	5/8	1/4	3-1/4	.315 - .340	1540700	1550700
8	3/4	5/16	3-1/2	.390 - .420	1540800	1550800



METRIC CENTER DRILLS 60° Angle Form A

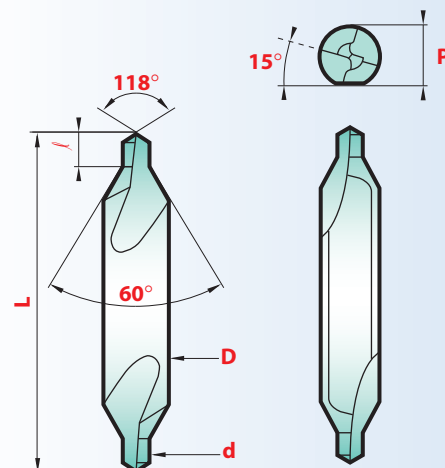
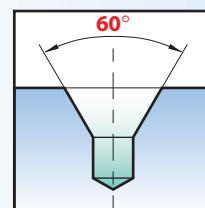
CENTERING

ISO • NFE 66051-A • DIN 333-A • JIS-1

TYPE			Right hand	Left hand	With flat, right hand		
D x d	L	\	11	16	P -0,1	Cobalt 0290	TIN 0890
3,0 x 0,5	31	0,6 - 0,9	1103000050				
3,15 x 0,5 *	25	0,6 - 0,9	1103150050	1603150050			
3,15 x 0,63 *	25	0,7 - 1,0	1103150063	1603150063			
3,15 x 0,8 *	25	1,0 - 1,3	1103150080	1603150080			
3,15 x 1,0	31	1,3 - 1,7	1103150100	1603150100			
3,15 x 1,25	31	1,6 - 2,0	1103150125	1603150125			
3,5 x 0,75	35	1,0 - 1,3	1103500075	1603500075			
4,0 x 1,0	35	1,3 - 1,7	1104000100	1604000100			
4,0 x 1,25	35	1,6 - 2,0	1104000125	1604000125			
4,0 x 1,6	35	2,0 - 2,6	1104000160	1604000160	3,25	02900400160	08900400160
5,0 x 1,5	40	2,0 - 2,6	1105000150	1605000150			
5,0 x 1,6	40	2,0 - 2,6	1105000160	1605000160			
5,0 x 2,0	40	2,5 - 3,1	1105000200	1605000200	4,20	02900500200	08900500200
6,0 x 2,0	45	2,5 - 3,1	1106000200	1606000200			
6,3 x 2,0	45	2,5 - 3,1	1106300200	1606300200			
6,3 x 2,5	45	3,1 - 3,8	1106300250	1606300250	5,35	02900630250	08900630250
8,0 x 2,5	50	3,1 - 3,8	1108000250	1608000250			
8,0 x 3,0	50	3,9 - 4,6	1108000300	1608000300			
8,0 x 3,15	50	3,9 - 4,6	1108000315	1608000315	6,95	02900800315	08900800315
10,0 x 3,0	55	3,9 - 4,6	1110000300	1610000300			
10,0 x 3,15	55	3,9 - 4,6	1110000315	1610000315			
10,0 x 4,0	55	5,0 - 5,9	1110000400	1610000400	8,40	02901000400	08901000400
12,0 x 4,0	63	5,0 - 5,9	1112000400	1612000400			
12,0 x 5,0	63	6,3 - 7,2	1112000500	1612000500			
12,5 x 4,0	63	5,0 - 5,9	1112500400	1612500400			
12,5 x 5,0	63	6,3 - 7,2	1112500500	1612500500	10,95	02901250500	08901250500
14,0 x 5,0	69	6,3 - 7,2	1114000500	1614000500			
16,0 x 5,0	71	6,3 - 7,2	1116000500	1616000500			
16,0 x 6,3	71	8,0 - 8,9	1116000630	1616000630	14,00	02901600630	08901600630
18,0 x 6,0	77	8,0 - 8,9	1118000600				
20,0 x 6,3	80	8,0 - 8,9	1120000630				
20,0 x 8,0	80	10,1 - 11,1	1120000800	1620000800	17,90	02902000800	08902000800
25,0 x 8,0	100	10,1 - 11,1	1125000800				
25,0 x 10,0	100	12,8 - 13,8	1125001000		22,50	02902501000	08902501000
31,5 x 10,0	125	12,8 - 13,8	1131501000				
31,5 x 12,5	125	16,5 - 17,5	1131501250				

* Single end

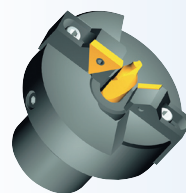
NOTE :
all metric center drills are
available within 2 weeks.
Call for information.



D	d	L	Angles	
			60°	118°
h8	k12	±1	-30'	±2°

Tolerances

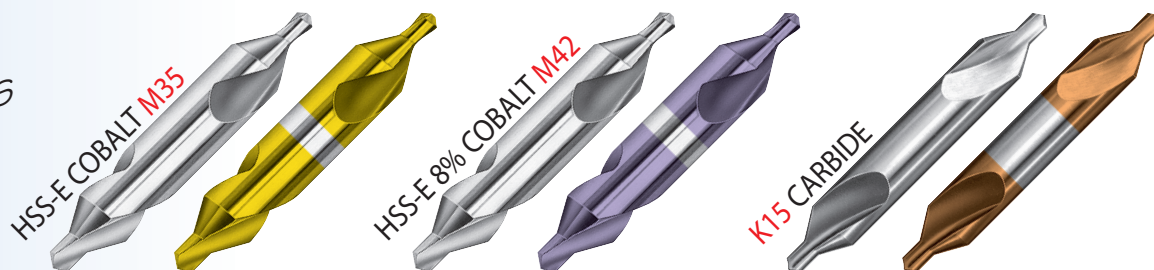
The **magafor** center drills
are particularly effective thanks
to their unique ground spiral flutes.



MODUL-R

Center drills with flat
for the combination
of centering-facing.
Pages 13-14

Performances



ISO • NFE 66051-A • DIN 333-A • JIS-1

D x d	L	\	magafor 10	TIN 0811	cobalt 105	futura 0910	carbide 8100	Hard'X 8100-H
3,15 x 0,5 *	25	0,6 - 0,9		08110315050			81000315050	81000315050-H
3,15 x 0,8 *	25	1,0 - 1,3		08110315080			81000315080	81000315080-H
3,15 x 1,0	31	1,3 - 1,7	100315100	08110315100	1050315100	0910315100	81000315100	81000315100-H
3,15 x 1,25	31	1,6 - 2,0	100315125	08110315125	1050315125	0910315125	81000315125	81000315125-H
3,5 x 0,75	35	1,0 - 1,3	100350075	08110350075				
4,0 x 1,0	35	1,3 - 1,7	100400100	08110400100			81000400100	81000400100-H
4,0 x 1,6	35	2,0 - 2,6	100400160	08110400160	1050400160	0910400160	81000400160	81000400160-H
5,0 x 1,5	40	2,0 - 2,6	100500150	08110500150			81000500150	81000500150-H
5,0 x 2,0	40	2,5 - 3,1	100500200	08110500200	1050500200	0910500200	81000500200	81000500200-H
6,0 x 2,0	45	2,5 - 3,1	100600200	08110600200			81000600200	81000600200-H
6,3 x 2,5	45	3,1 - 3,8	100630250	08110630250	1050630250	0910630250	81000630250	81000630250-H
8,0 x 2,5	50	3,1 - 3,8	100800250	08110800250			81000800250	81000800250-H
8,0 x 3,0	50	3,9 - 4,6	100800300	08110800300			81000800300	81000800300-H
8,0 x 3,15	50	3,9 - 4,6	100800315	08110800315	1050800315	0910800315	81000800315	81000800315-H
10,0 x 3,0	55	3,9 - 4,6	101000300	08111000300			81001000300	81001000300-H
10,0 x 4,0	55	5,0 - 5,9	101000400	08111000400	1051000400	0910000400	81001000400	81001000400-H
12,0 x 4,0	63	5,0 - 5,9	101200400	08111200400				
12,0 x 5,0	63	6,3 - 7,2	101200500	08111200500			81001200500	81001200500-H
12,5 x 5,0	63	6,3 - 7,2	101250500	08111250500	1051250500	0910250500	81001250500	81001250500-H
14,0 x 5,0	69	6,3 - 7,2	101400500	08111400500				
16,0 x 6,3	71	8,0 - 8,9		08111600630			81001600630	81001600630-H
20,0 x 8,0	80	10,1 - 11,1		08112000800				

* Single end

NOTE :
all metric center drills are available
within 2 weeks.
Call for information.



15 PIECES		SETS 5 PIECES	
COMPOSITION Quantity	115/15	COMPOSITION Quantity	115
3 pieces each	# 1	1 piece each	# 1
	# 2		# 2
	# 3		# 3
	# 4		# 4
2 pieces	# 4-1/2		# 5
1 piece	# 5		

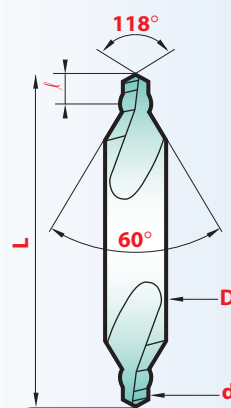
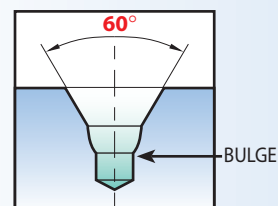


magafor

"UNIQUE"
CENTER DRILLS
With reinforcing bulge
Form W

PLAIN TYPE WITH BULGE

SIZE	D	d	L	\	145
1 - W	1/8	3/64	1-1/4	.055 - .067	1450100
2 - W	3/16	5/64	1-7/8	.095 - .106	1450200
3 - W	1/4	7/64	2	.130 - .154	1450300
4 - W	5/16	1/8	2-1/8	.150 - .175	1450400
5 - W	7/16	3/16	2-3/4	.230 - .256	1450500
6 - W	1/2	7/32	3	.270 - .295	1450600
7 - W	5/8	1/4	3-1/4	.315 - .340	1450700
8 - W	3/4	5/16	3-1/2	.390 - .420	1450800



The **magafor** center drill form W is stronger than common center drill :

- the bulge reinforces the point,
- it increases the chips removal,
- it makes the lubrication of the drill easier.

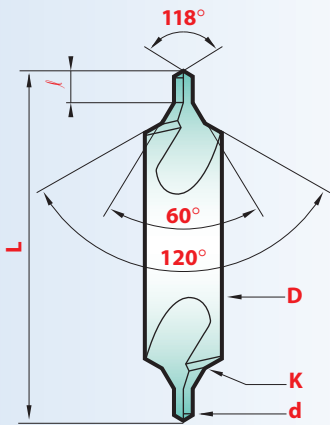
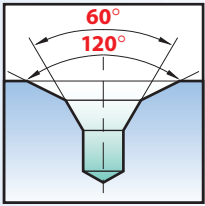
Tool Diameters	D	d	Angle
			60° 118°
.010 - 7/64	n/a	+ .0039	
1/8 - 7/32	- .0007	+ .0047	
1/4 - 3/8	- .0009	+ .0059	- 30' ± 2°
7/16 - 5/8	- .0011	n/a	
3/4 - 1	- .0013	n/a	

SETS

American Standard
5 PIECES

COMPOSITION	Quantity
	145
1 piece each	# 1
	# 2
	# 3
	# 4
	# 5

BELL TYPE CENTER DRILLS With saved angle Form B



SETS American Standard 5 PIECES

COMPOSITION Quantity	135
1 piece each	# 1
	# 2
	# 3
	# 4
	# 5

Center drills with protective chamfer guarantee the center obtained from any risk of blows and deformation. The splay resulting from the protective chamfer makes it easier to load parts between points on machines with automatic feed.



SIZE	D	d	K	L	\	135
11	1/8	3/64	.100	1-1/4	.055 - .070	1351100
12	3/16	1/16	.150	1-7/8	.070 - .090	1351200
13	1/4	3/32	.200	2	.110 - .135	1351300
14	5/16	7/64	.250	2-1/8	.125 - .155	1351400
15	7/16	5/32	.350	2-3/4	.185 - .215	1351500
16	1/2	3/16	.400	3	.230 - .260	1351600
17	5/8	7/32	.500	3-1/4	.270 - .300	1351700
18	3/4	1/4	.600	3-1/2	.310 - .340	1351800
19	7/8	5/16	.700	3-5/8	.390 - .420	1351900
20	1	3/8	.800	3-3/4	.470 - .500	1352000

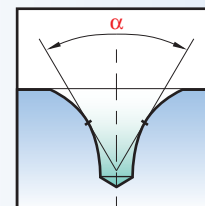
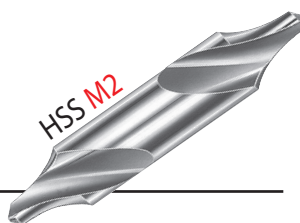


British Standard

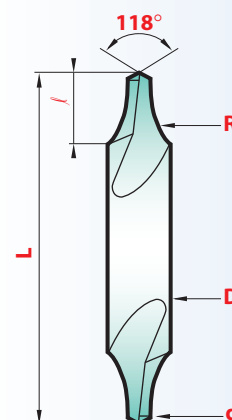
BS #	D	d	K	L	\	magafor 134
1 - B	1/8	3/64	.075	1-1/2	.060 - .080	1340100
2 - B	3/16	1/16	.110	1-3/4	.075 - .095	1340200
3 - B	1/4	3/32	.150	2	.130 - .155	1340300
4 - B	5/16	7/64	.190	2-1/4	.160 - .185	1340400
5 - B	7/16	5/32	.260	2-1/2	.220 - .250	1340500
6 - B	5/8	7/32	.375	3	.300 - .330	1340600
7 - B	3/4	1/4	.450	3-1/2	.360 - .400	1340700



RADIUS TYPE CENTER DRILLS Form R



ASA #	D	d	L	R	\	magafor 125
1 - R	1/8	3/64	1-1/4	.150	.125 - .150	1250100
2 - R	3/16	5/64	1-7/8	.230	.200 - .225	1250200
3 - R	1/4	7/64	2	.315	.270 - .300	1250300
4 - R	5/16	1/8	2-1/8	.400	.340 - .370	1250400
5 - R	7/16	3/16	2-3/4	.500	.480 - .510	1250500
6 - R	1/2	7/32	3	.530	.540 - .575	1250600
7 - R	5/8	1/4	3-1/4	.700	.660 - .700	1250700
8 - R	3/4	5/16	3-1/2	.790	.810 - .850	1250800



British Standard

BS #	D	d	L	R	\	magafor 124
1 - R	1/8	3/64	1-1/2	.125	.125 - .145	1240100
2 - R	3/16	1/16	1-3/4	.200	.185 - .205	1240200
3 - R	1/4	3/32	2	.250	.245 - .270	1240300
4 - R	5/16	1/8	2-1/8	.315	.310 - .335	1240400
5 - R	7/16	3/16	2-3/4	.400	.430 - .470	1240500

Tool Diameters	D	d	R max
.010 - 7/64	n/a	+ .0039	
1/8 - 7/32	- 0.0007	+ .0047	
1/4 - 3/8	- 0.0009	+ .0059	1.25 R
7/16 - 5/8	- 0.0011	n/a	
3/4 - 1	- 0.0013"	n/a	

Tolerances

SETS American Standard 5 PIECES

COMPOSITION Quantity	125
1 piece each	# 1
	# 2
	# 3
	# 4
	# 5

magafor center drill with radius, thanks to its special profile, is more robust than the 60° center drill :

- the radius eliminates the risk of breakage,
- it provides an exact bearing,

