

## Common applications

• Magnetos • Separators • Sensors • Relays • Holding magnets • Security systems

## Machining and tolerances

Alnico is hard and brittle (45-55 Rockwell C), and is not suitable for drilling, tapping or conventional machining operations. Most alnico magnets are manufactured using typical foundry casting techniques, where the molten alloy is poured into sand molds. Very small magnets, usually one ounce or less, are produced using the press and sinter techniques. Un-ground surfaces are gray to dark brown in color but are bright metallic after grinding. Adams provides in-house cutting and grinding to meet your application requirements. We also provide magnetic circuit design assistance.

Close tolerances are attained by abrasive grinding and cutting. Standard tolerances for ground dimensions are +/- .005". Tolerances for as cast dimensions vary with the actual part size.

## Temperature constraints and magnetization

Alnico has the best temperature coefficient of any commercial magnet material, providing for excellent stability over a wide temperature range. A properly designed circuit using alnico magnets will have a stable flux output during temperature fluctuations. Maximum operating temperature for alnico is 950°F.

Magnetization: Alnico magnets can be partially demagnetized if like poles of magnets are brought together. Placing individual magnets in contact with ferrous materials can also partially demagnetize them. Care must be exhibited in handling magnetized magnets. Typical open circuit Alnico 5 applications require a long magnetic length to pole surface ratio (usually 4:1 or greater) to insure good magnetic performance.

## Alnico 5 Rods

Diameter	Length	Item#
0.125	6	40D0006
0.187	6	40D0315
0.250	6	40D0267
0.375	6	41D0074
0.500	6	40D0137
0.625	6	40D0037
0.750	6	40D0039
0.875	6	40D0042
1.000	6	40D0046
2.000	6	40D0507

## Sintered and Cut Square Bars

Thickness & Width	Length	Item#
0.062	0.500	40C0101
0.125	0.750	40C0007
0.187	1.000	40C0057
0.250	1.000	40C0043
0.375	1.200	40C0023

## Buttons

Diameter	Height	Hole Size	Weight	Pull	Item#
0.50	0.375	0.125	0.2	1.5	40F0041
0.75	0.500	0.188	0.5	4.0	40F0014
1.00	0.625	0.187	2.0	6.5	40F0016
1.25	0.75	0.187	3.0	14	40F0037

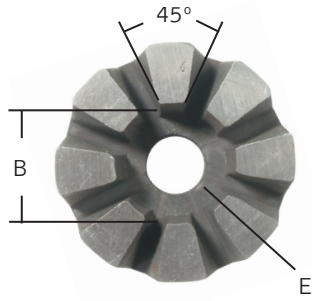
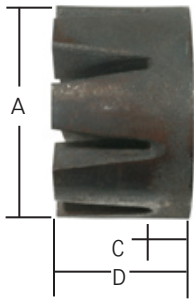
## Pots

Diameter	Height	Hole Size	Weight	Pull	Item#
0.687	0.625	10UNF	1.0	6	40F0023
0.750	0.313	0.147	0.5	7	40F0020
1.060	1.000	10UNF	3.4	18	40F0011
1.500	0.406	0.190	2.8	29	40F0022
1.375	1.180	10UNF	7.5	35	40F0012

Notes: Dimensions are in inches. Weight is in ounces; Pull figures are typical values in pounds; these will be achieved with smooth steel of adequate thickness where contact faces are intimate and clean. Other sizes are available. Please call us if you don't find what you're looking for in this brief listing. 1-800-763-4795

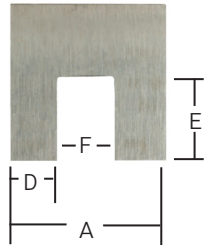
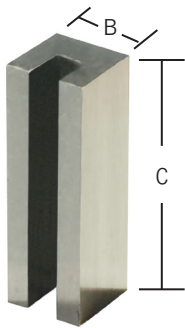


**Call ADAMS for everything magnetic!**  
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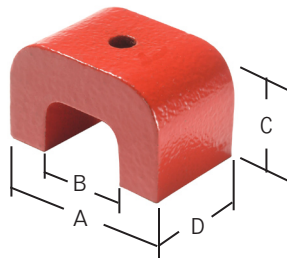
### Rotors / Holding

A	B	C	D	E	Poles	Pull	Item#
0.625	0.220	0.312	0.625	0.187	2	4	40F0002
0.875	0.406	0.437	0.875	0.265	2	12	40F0005
1.000	0.354	0.500	1.000	0.265	2	12	40F0006
1.250	0.600	0.312	0.750	0.187	2	18	40F0007
1.250	0.531	0.687	1.370	0.312	2	23	40F0008
1.000	0.500	0.250	0.750	0.266	4	16	40H0001
1.810	0.760	0.375	1.250	0.313	6	60	40H0003
2.000	1.000	0.375	1.250	0.500	8	65	40H0004



### Channels

A	B	C	D	E	F	Pull	Item#
0.625	0.375	5.00	0.187	0.125	0.250	16	40E0008
0.500	0.494	6.00	0.162	0.254	0.177	26	40E0001
0.875	0.750	6.00	0.250	0.438	0.375	45	40E0004
1.000	0.812	6.00	0.312	0.437	0.375	51	40E0005
1.250	1.000	6.00	0.406	0.500	0.438	62	40E0007



### Horseshoes

A	B	C	D	Hole Size	Pull	Item#
1.57	0.98	0.98	0.787	0.197	19	40G0031
1.77	1.18	1.18	0.905	0.197	26	40G0010

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