

## Target Thickness Guide - Indirect Cooled Cathodes

<u>Magnetics</u>	<u>Target Materials</u>	<u>Magnetron Type</u>						
		1 IC	2 IC	3 IC	4 IC	5 IC	6 IC	8 IC
<b>Standard</b>	<b>Non-Magnetic</b>	.063" / 1.58 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm
	<b>Magnetic - Ni</b>	.005" / 0.12 mm	.020" / 0.50 mm	.020" / 0.50 mm	.020" / 0.50 mm	.020" / 0.50 mm	.020" / 0.50 mm	.020" / 0.50 mm
	<b>Magnetic - Co</b>	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm
	<b>Magnetic - Fe</b>	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm	.010" / 0.25 mm
<b>MAGII</b>	<b>Non-Magnetic</b>	.125" / 3.17 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm
	<b>Magnetic - Ni</b>	.060" / 1.52 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.187" / 4.75 mm	.250" / 6.35 mm	.250" / 6.35 mm
	<b>Magnetic - Co</b>	.020" / 0.50 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm
	<b>Magnetic - Fe</b>	.010" / 0.25 mm	.040" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm

- Note:
1. The above numbers reflect recommended material thickness for optimal performance and are not indicative of maximum thickness capability.
  2. Target thicknesses are for a pressure range between 2-5 millitorr.

## Target Thickness Guide - Indirect Cooled UHV Cathodes

<u>Magnetics</u>	<u>Target Materials</u>	<u>Magnetron Type</u>						
		<u>1 UHV</u>	<u>2 UHV</u>	<u>3 UHV</u>	<u>4 UHV</u>	<u>5 UHV</u>	<u>6 UHV</u>	<u>8 UHV</u>
<b>Standard</b>	<b>Non-Magnetic</b>	.125" / 3.17 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm
	<b>Magnetic</b>	.005" / .127 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm
<b>MAGII</b>	<b>Non-Magnetic</b>	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm
	<b>Magnetic</b>	.060" / 1.52 mm	.060" / 1.52 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm

- Notes:
1. The above numbers reflect recommended target material thickness for optimal performance and are not indicative of maximum thickness capability.
  2. Nickel targets utilized for determining the target thickness. Iron, Cobalt and other ferro-magnetic materials will differ depending on the coercivity.
  3. Target thicknesses are for a pressure range between 2-5 millitorr.

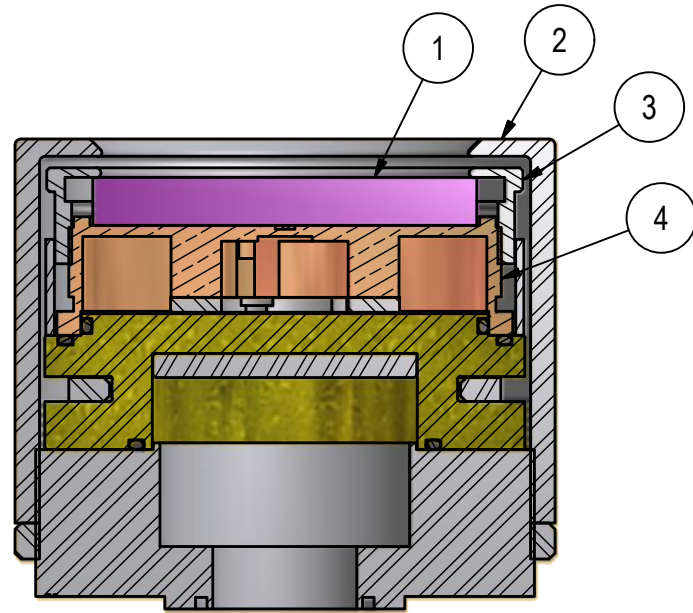
## Target Thickness Guide - Direct Cooled Cathodes

<u>Magnetics</u>	<u>Target Materials</u>	<u>Magnetron Type</u>					
		2 DC - 3 DC		4 DC		5 DC - 6 DC - 8 DC	
		Clamped /Bonded	Monolithic	Clamped /Bonded	Monolithic	Clamped /Bonded	Monolithic
<b>Standard</b>	<b>Non-Magnetic</b>	.250" / 6.35 mm	.375" / 9.52 mm	.250" / 6.35 mm	.500" / 12.7 mm	.250" / 6.35 mm	.500" / 12.7 mm
	<b>Magnetic - Ni</b>	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm	.020" / .508 mm
	<b>Magnetic – Co</b>	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm
	<b>Magnetic – Fe</b>	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm	.010" / .254 mm
<b>MAGII</b>	<b>Non-Magnetic</b>	.250" / 6.35 mm	.375" / 9.52 mm	.250" / 6.35 mm	.500" / 12.7 mm	.250" / 6.35 mm	.500" / 12.7 mm
	<b>Magnetic – Ni</b>	.125" / 3.17 mm	.125" / 3.17 mm	.187" / 4.75 mm	.250" / 6.35 mm	.250" / 6.35 mm	.250" / 6.35 mm
	<b>Magnetic – Co</b>	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm	.125" / 3.17 mm
	<b>Magnetic – Fe</b>	.040" / 1.01 mm	.010" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm	.040" / 1.01 mm

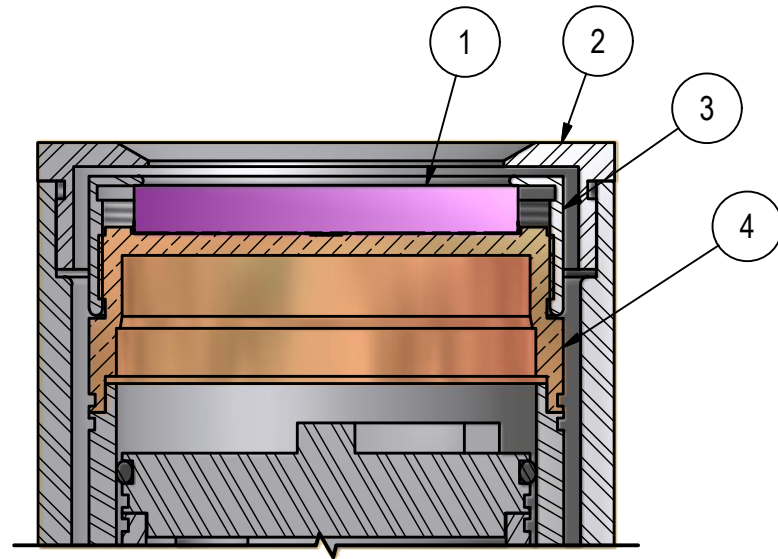
**Notes:**

1. The above numbers reflect recommended material thickness for optimal performance and are not indicative of maximum thickness capability.
2. Target thicknesses are for a pressure range between 2-5 millitorr
3. Target backing plate must be modified to allow maximum thickness of magnetic target materials.

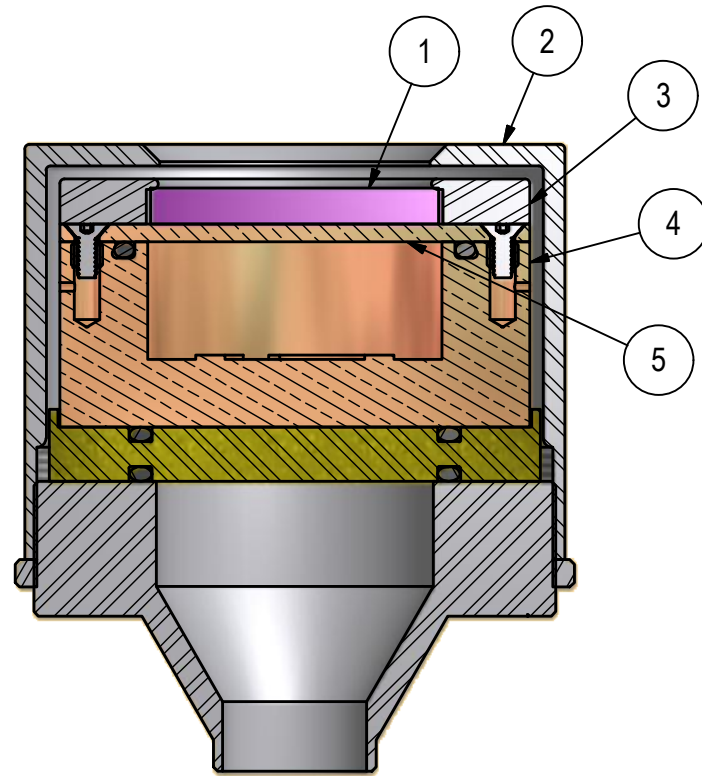
ITEM #	DESCRIPTION
1	TARGET
2	ANODE SHIELD
3	TARGET CLAMP
4	CATHODE BODY
5	BACKING PLATE



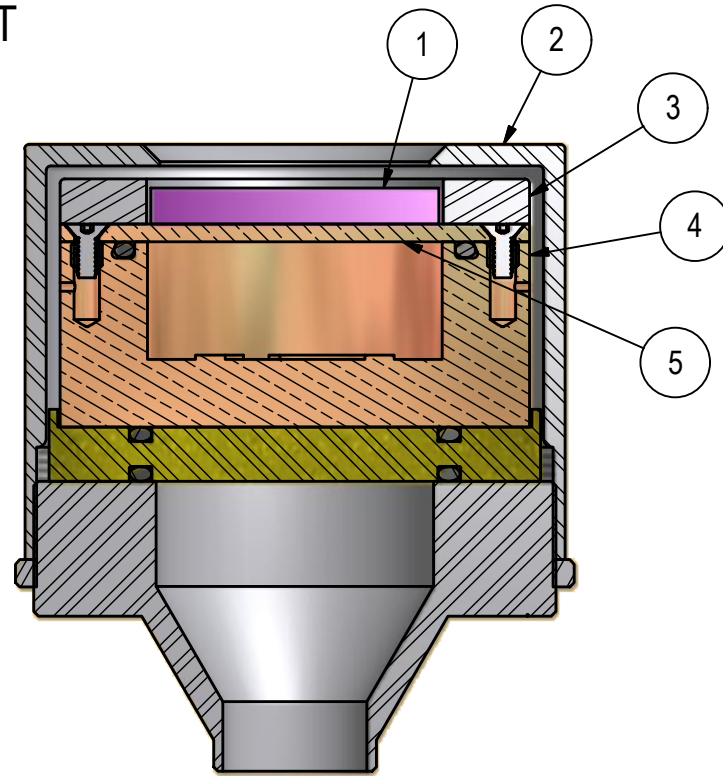
INDIRECT COOLED  
CLAMPED TARGET



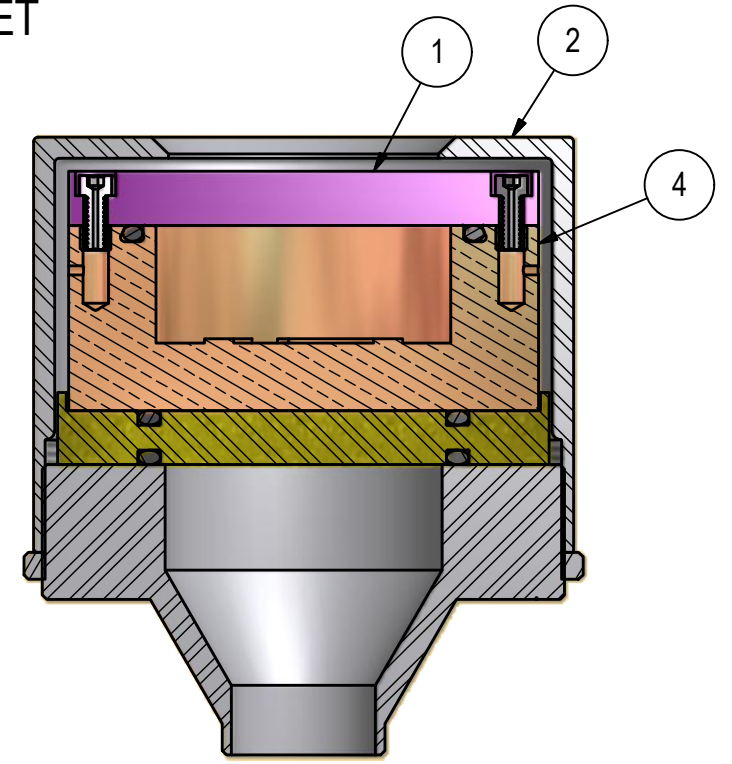
UHV INDIRECT COOLED  
CLAMPED TARGET



DIRECT COOLED  
CLAMPED TARGET



DIRECT COOLED  
BONDED TARGET



DIRECT COOLED  
MONOLITHIC TARGET

NO.	DATE	REVISION	BY

TOLERANCES  
(UNLESS OTHERWISE SPECIFIED)

LINEAR (IN.)      LINEAR (MM)  
 FRACTIONAL = ± 1/64      NO DECIMAL = ±0.5  
 2 PLACE DECIMAL = ±0.01      1 PLACE DECIMAL = ±0.1  
 3 PLACE DECIMAL = ±0.005      2 PLACE DECIMAL = ±0.01  
 4 PLACE DECIMAL = ±0.0005

ANGULAR  
 DEGREES = ±1°  
 DEGS, MINS = ±00°,30"  
 DEGS, MINS, SECS = ±00°,00',30"

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APVL. BY:		DATE:
SHEET 1 OF 1		
PART NO.:		

ANGSTROM SCIENCES, INC.		
TITLE: TARGET COOLING OPTIONS		
DRAWING NUMBER:	REV.	SIZE
TARGET COOLING OPTIONS	0	B