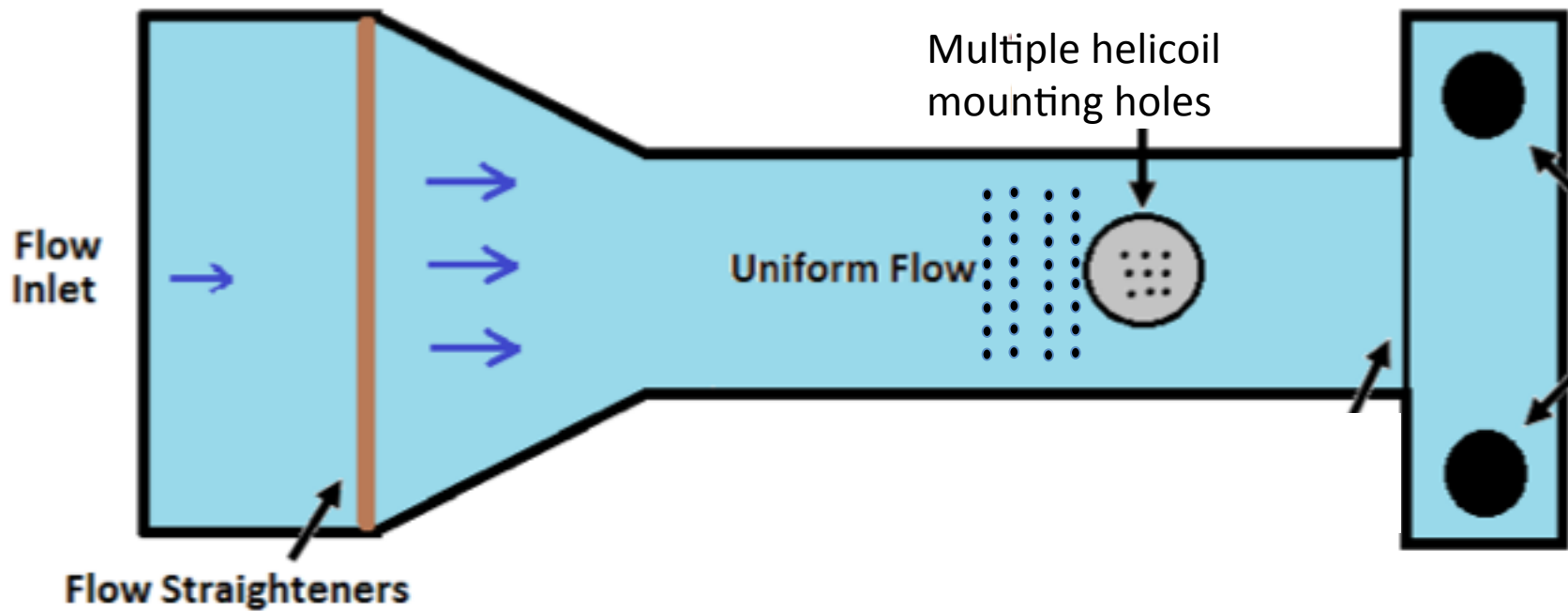
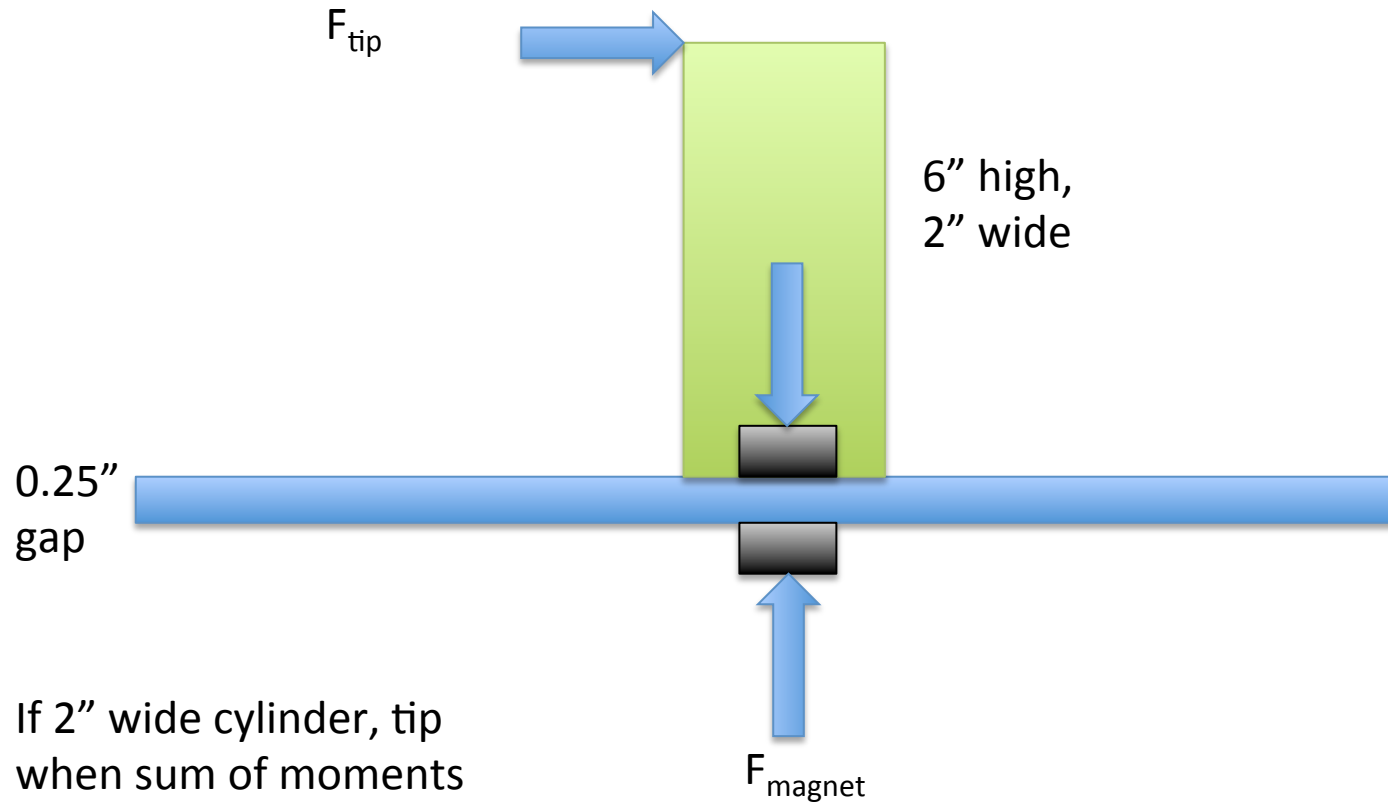


Test Specimen Feasibility- Mounting Holes

Top Down View of Water Table



2 Magnets Analysis



If 2" wide cylinder, tip
when sum of moments
not equal to zero

$$F_{tip} * 6" = F_{magnet} * 1"$$


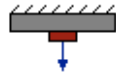
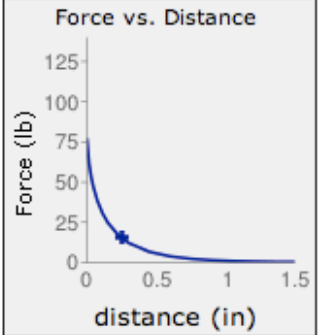
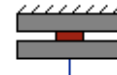
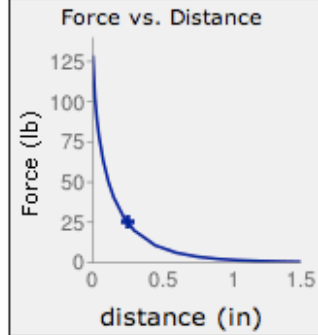

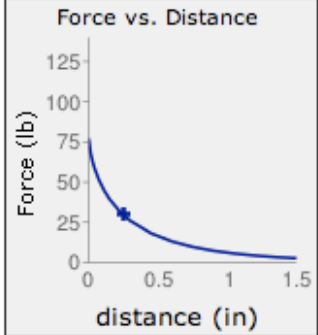
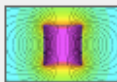
$$\text{Let } F_{tip} = 5\text{lbf}$$

$$F_{magnet} = 30\text{lbf}$$

Magnet Analysis- Online Tool

The Original K&J Magnet Calculator

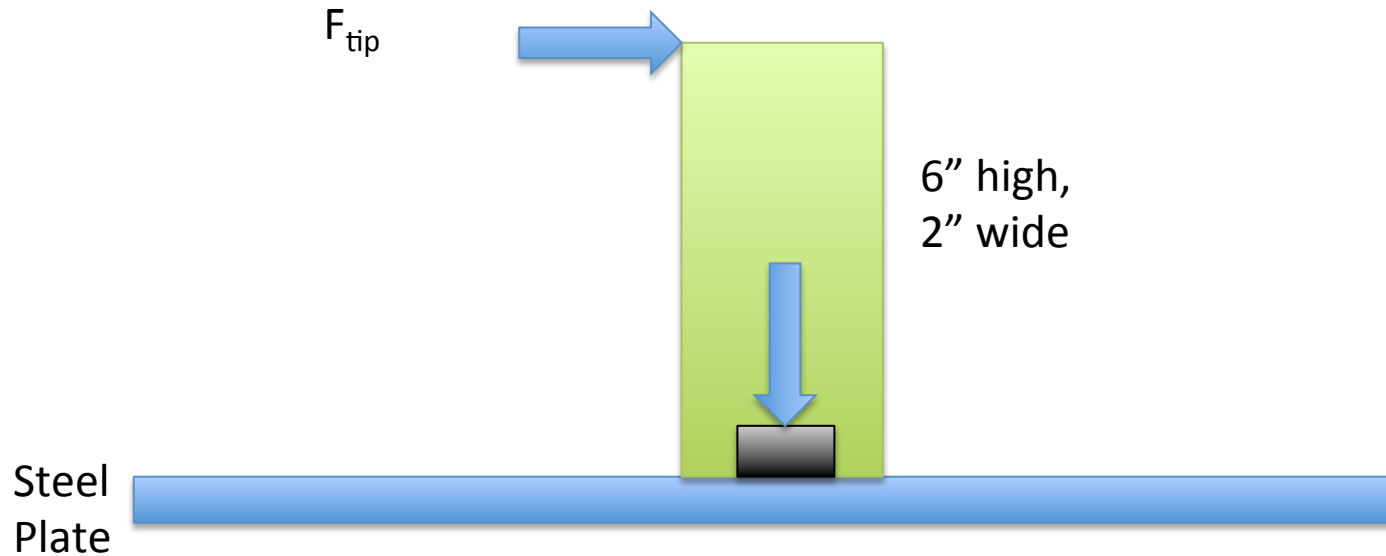
[Pull Force](#) [Repelling](#) [Magnetic Field](#) [Thickness](#) [Gap](#)

Shape:	Input:	Output:
<p>Discs Cylinders</p> 	<p>Grade: <input type="text" value="N45"/></p> <p>Diameter: <input type="text" value="1.5"/> <input type="text" value="in"/></p> <p>Thickness: <input type="text" value="0.5"/> <input type="text" value="in"/></p> <p>Distance: <input type="text" value="0.25"/> <input type="text" value="in"/></p> <p><input type="button" value="Calculate"/></p> <p><input type="button" value="Clear"/></p>	<p>Pull Force Case 1: Magnet to a Steel Plate:</p>  <p>15.22 lb</p> <p>Force vs. Distance</p>  <p>Click for larger chart</p> <p>Pull Force Case 2: Between 2 Steel Plates:</p>  <p>24.75 lb</p> <p>Force vs. Distance</p>  <p>Click for larger chart</p> <p>Pull Force Case 3: Magnet to Magnet:</p>  <p>29.61 lb</p> <p>Force vs. Distance</p>  <p>Click for larger chart</p> <p>Magnetic Field at 0.25in (on axis)*: 2,678 Gauss</p> <p>Permeance Coefficient (Pc)*: 0.86</p> <p>See the Magnetic Field </p>

<http://www.kjmagnetics.com/calculator.asp>

Magnets should work!

1 Magnet to Steel Analysis



If 2" wide cylinder, tip
when sum of moments
not equal to zero


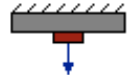
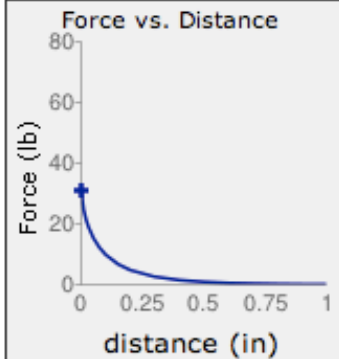
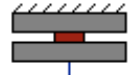
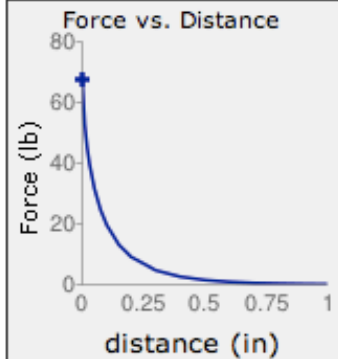

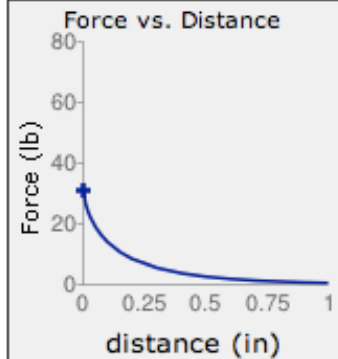
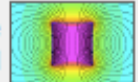
$$F_{tip} * 6" = F_{magnet} * 1"$$

$$\text{Let } F_{tip} = 5\text{lbf}$$

$$F_{magnet} = 30\text{lbf}$$

Magnet Analysis- Online Tool

The Original K&J Magnet Calculator Pull Force Repelling Magnetic Field Thickness Gap

Shape:	Input:	Output:
<p>Discs Cylinders</p> 	<p>Grade: <input type="text" value="N48"/></p> <p>Diameter: <input type="text" value="1"/> <input type="text" value="in"/></p> <p>Thickness: <input type="text" value=".25"/> <input type="text" value="in"/></p> <p>Distance: <input type="text" value="0"/> <input type="text" value="in"/></p> <p><input type="button" value="Calculate"/></p> <p><input type="button" value="Clear"/></p>	<p>Pull Force Case 1: Magnet to a Steel Plate:</p>  <p>31.09 lb</p> <p>Force vs. Distance</p>  <p>Click for larger chart</p> <p>Pull Force Case 2: Between 2 Steel Plates:</p>  <p>67.43 lb</p> <p>Force vs. Distance</p>  <p>Click for larger chart</p> <p>Pull Force Case 3: Magnet to Magnet:</p>  <p>31.09 lb</p> <p>Force vs. Distance</p>  <p>Click for larger chart</p> <p>Surface Field (on axis)*: 3,175 Gauss</p> <p>Permeance Coefficient (Pc)*: 0.61</p> <p>See the  Magnetic Field</p>

<http://www.kjmagnetics.com/calculator.asp>

Magnets should work!